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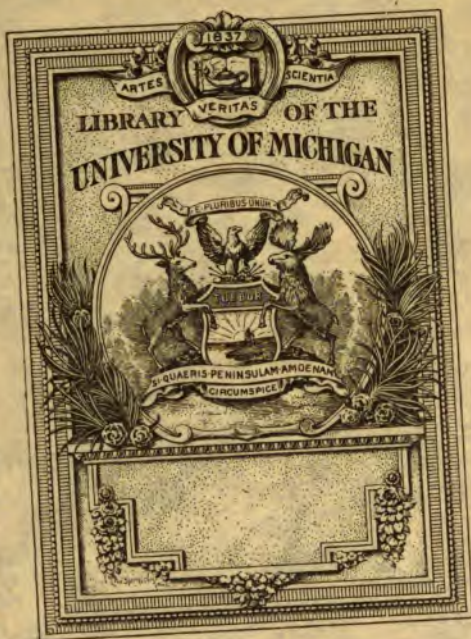
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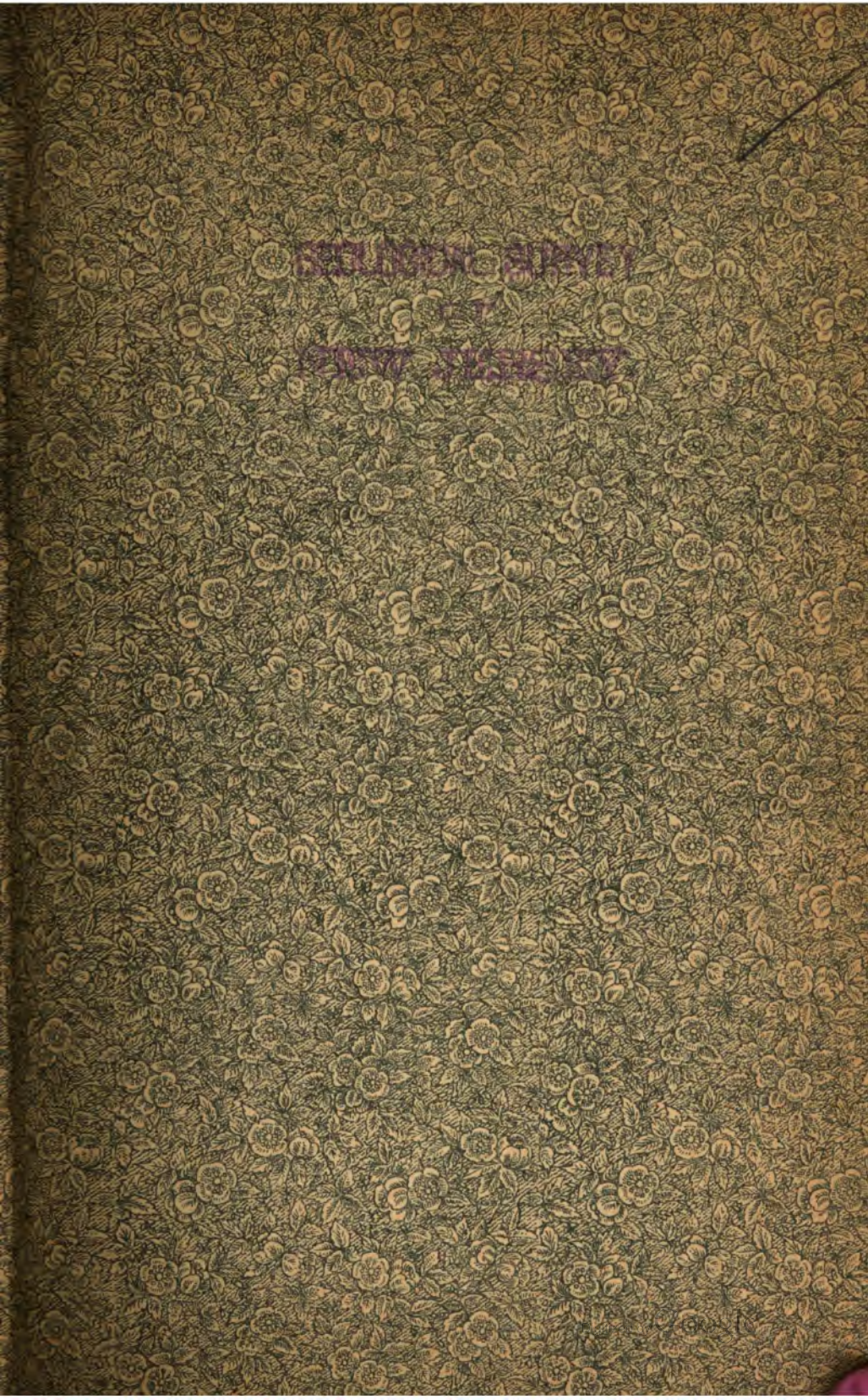
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TWENTY-SIXTH ANNUAL REPORT

D7a

OF THE

BOARD OF HEALTH

OF THE

STATE OF NEW JERSEY

1902



TRENTON, N. J.:

THE J. L. MURPHY PUBLISHING CO., PRINTERS.

1908.

BOARD OF HEALTH OF THE STATE OF NEW JERSEY.

The Secretary of State, The Attorney-General, The State Geologist,	}	<i>Members ex-officio.</i>
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HENRY MITCHELL, M.D.....	Asbury Park.
WILLIAM H. MURRAY, M.D.....	Plainfield.
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<i>President</i>	CYRUS F. BRACKETT.
<i>Secretary</i>	HENRY MITCHELL.

THE OFFICE OF THE BOARD IS IN THE STATE HOUSE, TRENTON.

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TRENTON, N. J., October 31st, 1902.

To His Excellency Franklin Murphy, Governor of New Jersey:

SIR—I have the honor to herewith transmit the twenty-sixth annual report of the Board of Health of the State of New Jersey, and the report of the Bureau of Vital Statistics for the statistical year ending June 30th, 1902.

Very respectfully,

HENRY MITCHELL,

Secretary.

Secretary's Report.

To His Excellency Franklin Murphy, Governor:

SIR—Beginning with the new century the statistical year in New Jersey will hereafter conform to the calendar year. Heretofore the tabulation of births, marriages and deaths has been based upon records for the year ending June 30th, but, for the purpose of rendering the figures more readily comparable with those of other States and countries, the tables will in future be arranged for the year ending December 31st. In the annual report of this board for 1901 the tables of vital facts were presented as in previous years, to include the data for the last half of the year 1900, and in this volume the figures for the first half of 1901 have been recombined in order that the totals for that year may be presented. The international classification of deaths went into operation in New Jersey at the beginning of the year 1901, and the forms for tabulation have necessarily been changed in some particulars. It will be possible in future to make much more extended analyses of the mortality statistics than has heretofore been practicable, and an effort will be made to show all of the facts contained in the certificates, not only to meet the needs of the Legislature and health officers, but to also provide information which is essential to the successful and satisfactory management of certain industrial and commercial interests.

Births.—The number of births recorded during the year ending December 31st, 1901, was 34,812, and the birth-rate for the State, based upon the certificates received, was 18.08. These figures do not indicate the true birth-rate, and attention has often been called in these reports to the errors which annually appear in the reports of births, in consequence, mainly, of the neglect of physicians and midwives to file certificates of birth in cases where they professionally attend cases of labor. In a

very small proportion of cases no professional attendant is present, and failure to report these births is usually due to ignorance of the requirements of the law on the part of the parents. The negligence of professional attendants at births to make and file certificates is not so much owing to defects in the law as it is to the inefficiency and indifference of the local registrars of vital statistics in the districts where the neglect occurs. Every registrar soon becomes aware of cases of habitual neglect on the part of physicians, and in localities where the local officer is disposed to perform his duty he can readily secure compliance with the law by correspondence with the offender; by reporting the facts to the local board of health and advising that suit for the penalty be brought against the guilty parties, or, in cases where both of these efforts fail, by forwarding the evidence to the State Board of Health with a request for assistance in the enforcement of the law. Under authority contained in chapter 4 of the laws of 1900, the State Board is able to take action in cases where the law requiring the certificates of births is violated, but thus far every case of this character referred to the Board has been disposed of without suit.

One serious drawback to the enforcement of this provision of the law is the lack of appreciation on the part of local registrars of the value of a correct record of births, and this unfortunate condition can probably only be remedied by placing the duty of collecting, recording and transmitting certificates of marriages, births and deaths in the hands of officers who have been instructed concerning the uses which such records serve. If the bill which has been prepared by the New Jersey Sanitary Association, providing for the appointment of none but skilled officers by local boards of health, should become a law there would doubtless be rapid improvement in the enforcement of the act above referred to, as well as in all of the other provisions of the health laws.

Marriages.—A notable increase in the number of marriages occurred during the year ending December 31st, 1901, as the following table shows:

TABLE 1.—SHOWING NUMBER OF MARRIAGES IN NEW JERSEY, AND THE NUMBER OF PERSONS MARRIED PER 1,000 POPULATION FOR TWENTY-THREE YEARS, 1879-1901.

YEAR.	Marriages in New Jersey.	Persons married per 1,000 population.
1879.....	7,096	6.95
1880.....	7,938	7.02
1881.....	8,109	7.17
1882.....	8,837	7.81
1883.....	9,166	8.10
1884.....	8,968	7.93
1885.....	8,989	7.03
1886.....	12,351	9.66
1887.....	15,416	12.06
1888.....	16,025	12.54
1889.....	15,726	11.25
1890.....	15,564	10.80
1891.....	15,305	10.35
1892.....	16,082	10.64
1893.....	17,178	11.16
1894.....	16,245	10.23
1895.....	15,873	9.49
1896.....	18,370	10.69
1897.....	18,171	10.30
1898.....	13,213	7.30
1899.....	13,336	7.19
1900.....	14,611	7.76
1901*.....	15,873	8.13
1901†.....	16,539	8.48

* Year ending June 30th, 1901.

† Year ending December 31st, 1901.

Deaths.—The number of deaths in New Jersey for the year ending December 31st, 1901, was 31,739, and the annual death-rate, based upon the estimated population for the year (1,925,781), was 16.48 per 1,000 inhabitants. For the ten previous years the death-rate has been as follows: 1891, 19.50; 1892, 21.62; 1893, 19.88; 1894, 19.09; 1895, 18.31; 1896, 17.90; 1897, 16.90; 1898, 15.10; 1899, 16.70; 1900, 16.70. The new classification permits the tabulation of decedents with reference to occupation as shown on the certificates of death, and the facts thus obtained are presented in tables which follow.

TABLE 2.—DEATHS IN NEW JERSEY, PER 10,000 POPULATION, FROM CERTAIN CLASSIFIED CAUSES FOR TWENTY-THREE YEARS.

CAUSES OF DEATH.	1879.	1880.	1881.	1882.	1883.	1884.	1885.	1886.	1887.	1888.	1889.	1890.
Malarial fever.....	2.62	2.59	3.71	3.10	2.89	1.84	1.62	1.85	1.61	1.91	1.44	1.85
Enteric or typhoid.....	3.17	3.29	4.94	7.48	4.66	5.12	5.02	4.15	3.88	4.50	5.14	5.42
Small-pox.....		.12	2.18	3.08	.44	.56	.01	.08	.08	.08	.02	.....
Scarlet fever.....	6.14	5.06	4.80	10.09	7.05	4.38	5.05	1.69	1.89	4.17	3.78	1.45
Measles.....	.76	.76	.60	.72	1.08	1.51	1.05	.67	2.20	.58	.88	1.20
Whooping cough.....	2.71	1.14	1.02	2.12	1.56	.92	.41	2.09	1.84	1.17	1.97	2.57
Diphtheria and croup.....	10.86	7.71	9.72	12.87	9.47	8.21	11.70	9.94	11.87	14.80	11.18	10.92
Erysipelas.....	1.84	.96	1.06	.79	.74	.64	.57	.60	.71	.98	.80	.66
Diarrhoeal diseases of children.....	18.11	19.15	19.48	15.06	21.96	19.72	22.25	20.32	20.06	25.50	23.99	24.47
Consumption.....	27.81	28.99	28.76	29.21	25.81	28.75	25.97	24.45	27.20	24.41	24.50	24.46
Acute lung diseases.....	21.16	17.57	17.80	23.18	22.79	17.41	20.07	17.56	19.04	21.74	20.88	26.89
Brain and nervous diseases of children.....	16.18	14.48	14.15	16.80	18.92	12.80	14.01	13.58	14.04	14.33	13.66	14.10
Diseases of heart and circulation.....	9.52	8.68	10.45	9.92	10.21	10.60	11.76	11.49	11.89	12.29	12.68	13.49
Renal and cystic diseases.....	5.46	4.56	5.24	6.48	8.27	7.14	7.84	7.08	6.50	7.41	7.50	7.97
Adult brain and spinal diseases.....	12.87	11.91	12.94	12.78	12.91	13.88	14.82	14.74	13.64	15.28	14.14	16.01
Digestive and intestinal diseases.....	10.20	8.68	9.80	6.22	7.68	8.62	8.91	9.26	9.24	10.78	10.80	10.56
Cancer.....	3.70	3.75	3.89	3.87	3.81	3.87	3.89	4.15	4.21	4.45	4.11	4.41
Acute rheumatism.....	.74	.66	.76	.48	.27	.49	.28	.51	.98	1.10	.88	.78
Puerperal.....	1.90	2.15	2.61	2.05	1.68	1.77	2.09	1.98	1.86	1.97	1.80	1.78
Violent deaths.....	*	*	*	6.66	7.50	*	6.59	7.60	7.82	9.59	7.65	8.67

CAUSES OF DEATH.	1891.	1892.	1893.	1894.	1895.	1896.	1897.	1898.	1899.	1900.	1901.†	1901.‡
Malarial fever.....	1.21	1.80	.96	1.02	.85	1.69	1.74	.45	.52	.40	.46	.26
Enteric or typhoid.....	4.69	4.15	8.28	8.07	8.39	8.85	2.70	2.48	2.62	1.87	1.95	1.58
Small-pox.....		.26	.37	.08	.18	.01	.....	.....	.....	.....	.17	.74
Scarlet fever.....	1.94	6.66	2.89	1.72	1.67	1.06	1.15	1.11	1.01	1.16	.80	.98
Measles.....	1.69	1.80	.47	1.62	.66	2.26	.88	1.07	.82	1.21	.81	.40
Whooping cough.....	2.02	1.07	1.54	2.07	1.62	1.60	1.81	.85	1.52	1.61	.90	.82
Diphtheria and croup.....	11.74	11.74	10.89	8.19	8.75	10.22	7.88	6.24	4.19	4.87	4.83	8.55
Erysipelas.....	.67	.62	.48	.61	.44	.40	.38	.82	.47	.58	.86	.87
Diarrhoeal diseases of children.....	21.57	26.74	25.87	24.66	22.89	22.15	19.56	16.84	19.28	15.88	18.01	9.84
Consumption.....	28.87	28.64	22.28	21.77	21.17	19.58	18.84	17.81	19.81	18.48	18.76	16.91
Acute lung diseases.....	27.78	34.31	25.82	26.50	27.49	24.12	22.89	18.86	23.29	25.21	23.00	.....
Brain and nervous diseases of children.....	18.72	14.38	13.46	12.11	11.50	11.74	10.25	9.06	10.58	9.29	8.74	.....
Diseases of heart and circulation.....	13.26	14.44	14.16	12.74	13.55	14.08	14.52	12.62	14.72	14.99	14.59	14.87
Renal and cystic diseases.....	8.11	9.56	9.86	9.16	9.10	9.21	9.92	9.38	10.87	10.90	11.08	10.45
Adult brain and spinal diseases.....	15.77	16.26	16.96	15.28	15.69	15.18	14.63	14.91	15.31	15.49	15.80	.....
Digestive and intestinal diseases.....	10.68	10.74	11.89	9.92	9.49	9.48	8.91	8.19	8.88	9.47	8.78	11.42
Cancer.....	4.84	4.55	4.69	4.68	4.00	4.71	4.88	4.70	5.10	4.84	5.20	5.42
Acute rheumatism.....	.51	.66	.66	.57	.49	.34	.39	.80	.39	.38	.29	.80
Puerperal.....	2.00	1.86	1.88	1.85	1.75	1.64	1.67	1.45	1.44	1.51	1.40	1.70
Violent deaths.....	9.23	9.48	9.99	9.50	8.78	8.29	9.56	8.01	9.29	9.00	9.52	11.30

* Violent deaths are not separately recorded for these years.

† Year ending June 30th.

‡ Year ending December 31st.

TABLE 3.—SHOWING OCCUPATIONS OF DECEDENTS IN CITIES OF OVER 5,000 INHABITANTS IN NEW JERSEY, FOR YEAR ENDING DECEMBER 31ST, 1901.

CITIES OF OVER 5,000 INHABITANTS.	Estimated population.	Bakers.	Bankers and brokers.	Barbers.	Bartenders, brewers and saloon keepers.	Blacksmiths.	Boatmen.	Bookkeepers.	Brass and iron workers.	Brickmakers.	Butchers.	Cigar-makers.	Clergymen.	Cooks.	Coopers.	Constables and policemen.	Contractors, carpenters and builders.	Dressmakers and seamstresses.	Drivers, hatters and teamsters.	Druggists.	Dyers.	Engineers.	Engravers.	Expressmen.	Factory employees.		Farmers.
																									M.	F.	
Atlantic City.....	29,740	2		3	2	1		2			2	1	2	7	6		10	2	2	4		2					1
Bayonne.....	38,295				1						1						6	1									1
Bloomfield.....	9,988										1						2		1								1
Bordentown.....	4,110																2										1
Bridgeton.....	14,037																5		1								1
Burlington City.....	7,392																1		1								1
Camden City.....	78,429	2	2	2	8	4	4	4	2		4	5	8	13	1	2	16	3	1	13	1	9					2
Dover.....	6,121																1		2								1
East Orange.....	22,222																1		2								1
Elizabeth.....	53,789	2	1	2	8	5	5	2			1		2	2		1	26	2	2	6	4	2					3
Englewood.....	6,417																1		1								1
Gloucester City.....	6,953																1		1								1
Hackensack.....	9,875																1		1								1
Harrison.....	10,781																1		1								1
Hoboken.....	60,420	3		2	8	5	18	5			6	2	2	19	6	1	20	4	1	18	1	4					1
Irvine.....	5,629																1		1								1
Jersey City.....	211,177	5	1	6	28	11	20	12			16	10	1	63		8	52	9	53	2	19	1					1
Long Branch.....	9,180																5		2								1
Long Hill.....	10,806																5		2								1
Montclair.....	14,404																4		1								1
Morrisville.....	11,462																4		1								1
Morrisville.....	252,123	10	3	8	38	17	2	7	6		23	12	6	8	2	5	50	10	60	5		20	4		1	2	1
New Brunswick.....	20,025																6		2								1
North Plainfield.....	5,160																1		1								1
Orange.....	24,411																3		3								1
Passaic City.....	29,751	1															1		2								1
Paterson.....	106,786	8		3	10	3	1	2	4		1		1	6	2	1	8	3	3								1
Perth Amboy.....	18,633																2		2								1
Phillipsburg.....	10,246																1		1								1
Plainfield.....	15,717																1		1								1
Rahway.....	7,935																										1
Red Bank.....	5,596																										1
Salem City.....	5,811																										1
South Amboy.....	6,595																										1
Summit.....	5,472																										1
Town of Union.....	15,557	2			3	2	2	8	10	3	2	8	2	10	3	1	1	3	6	1		1					1
Trenton.....	75,465			2	5	4		8	10	3	7	8	2	10	3	1	17	6	7	1		5					1
West Orange.....	7,096																										1
Totals.....	1,210,124	31	9	83	118	64	47	52	23	8	67	12	35	24	253	22	286	69	228	23	19	71	4	1	20	12	88

REPORT OF THE BOARD OF HEALTH.

TABLE 3—SHOWING OCCUPATIONS OF DECEDENTS IN CITIES OF OVER 5,000 INHABITANTS IN NEW JERSEY, FOR YEAR ENDING DECEMBER 31ST, 1901—Continued

CITIES OF OVER 5,000 INHABITANTS.	Estimated population.	Firemen.	Fishermen.	Florists and gardeners.	Roundrymen and moulders.	Glassblowers.	Glassworkers.	Grinders and polishers.	Grocers.	Hatters.	Hotel keepers, restaurateurs, and stewards.	Housekeepers and housewives.	Ice-men.	Janitors and watchmen.	Jewellers and watchmakers.	Laundresses.	Laundrymen.	Lawyers.	Leather workers.	Letter carriers.	Locksmiths.	Machinists.	Managers and superintendents.	Manufacturers.	Masons.	Merchants.	Milkmen.
Atlantic City.....	29,740	1	1	1	1	1	1	1	1	2	1	63	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Bayonne.....	85,598	1	1	1	1	1	1	1	1	1	1	10	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Bloomfield.....	9,938	1	1	1	1	1	1	1	1	1	1	10	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Bordentown.....	4,110	1	1	1	1	1	1	1	1	1	1	10	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Bridgetown.....	1,087	1	1	1	1	1	1	1	1	1	1	10	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Bridgetown City.....	33,897	1	1	1	1	1	1	1	1	1	1	10	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Camden City.....	78,693	2	2	2	2	2	2	2	2	2	2	228	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Dayton.....	8,121	1	1	1	1	1	1	1	1	1	1	10	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
East Orange.....	22,223	1	1	1	1	1	1	1	1	1	1	10	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Elizabeth.....	52,723	1	1	1	1	1	1	1	1	1	1	10	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Englewood.....	8,417	1	1	1	1	1	1	1	1	1	1	10	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Gloucester City.....	9,843	1	1	1	1	1	1	1	1	1	1	10	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Haddonsex.....	10,870	1	1	1	1	1	1	1	1	1	1	10	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Haddonsex.....	10,870	1	1	1	1	1	1	1	1	1	1	10	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Haddonsex.....	10,870	1	1	1	1	1	1	1	1	1	1	10	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Haddonsex.....	10,870	1	1	1	1	1	1	1	1	1	1	10	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Haddonsex.....	10,870	1	1	1	1	1	1	1	1	1	1	10	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Haddonsex.....	10,870	1	1	1	1	1	1	1	1	1	1	10	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Haddonsex.....	10,870	1	1	1	1	1	1	1	1	1	1	10	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Haddonsex.....	10,870	1	1	1	1	1	1	1	1	1	1	10	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Haddonsex.....	10,870	1	1	1	1	1	1	1	1	1	1	10	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Haddonsex.....	10,870	1	1	1	1	1	1	1	1	1	1	10	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Haddonsex.....	10,870	1	1	1	1	1	1	1	1	1	1	10	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Haddonsex.....	10,870	1	1	1	1	1	1	1	1	1	1	10	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Haddonsex.....	10,870	1	1	1	1	1	1	1	1	1	1	10	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Haddonsex.....	10,870	1	1	1	1	1	1	1	1	1	1	10	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Haddonsex.....	10,870	1	1	1	1	1	1	1	1	1	1	10	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Haddonsex.....	10,870	1	1	1	1	1	1	1	1	1	1	10	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Haddonsex.....	10,870	1	1	1	1	1	1	1	1	1	1	10	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Haddonsex.....	10,870	1	1	1	1	1	1	1	1	1	1	10	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Haddonsex.....	10,870	1	1	1	1	1	1	1	1	1	1	10	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Haddonsex.....	10,870	1	1	1	1	1	1	1	1	1	1	10	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Haddonsex.....	10,870	1	1	1	1	1	1	1	1	1	1	10	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Haddonsex.....	10,870	1	1	1	1	1	1	1	1	1	1	10	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Haddonsex.....	10,870	1	1	1	1	1	1	1	1	1	1	10	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Haddonsex.....	10,870	1	1	1	1	1	1	1	1	1	1	10	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Haddonsex.....	10,870	1	1	1	1	1	1	1	1	1	1	10	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Haddonsex.....	10,870	1	1	1	1	1	1	1	1	1	1	10	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Haddonsex.....	10,870	1	1	1	1	1	1	1	1	1	1	10	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Haddonsex.....	10,870	1	1	1	1	1	1	1	1	1	1	10	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Haddonsex.....	10,870	1	1	1	1	1	1	1	1	1	1	10	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Haddonsex.....	10,870	1	1	1	1	1	1	1	1	1	1	10	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Haddonsex.....	10,870	1	1	1	1	1	1	1	1	1	1	10	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Haddonsex.....	10,870	1	1	1	1	1	1	1	1	1	1	10	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Haddonsex.....	10,870	1	1	1	1	1	1	1	1	1	1	10	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Haddonsex.....	10,870	1	1	1	1	1	1	1	1	1	1	10	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Haddonsex.....	10,870	1	1	1	1	1	1	1	1	1	1	10	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Haddonsex.....	10,870	1	1	1	1	1	1	1	1	1	1	10	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Haddonsex.....	10,870	1	1	1	1	1	1	1	1	1	1	10	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Haddonsex.....	10,870	1	1	1	1	1	1	1	1	1	1	10	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Haddonsex.....	10,870	1	1	1	1	1	1	1	1	1	1	10	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Haddonsex.....	10,870	1	1	1	1	1	1	1	1	1	1	10	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Haddonsex.....	10,870	1	1	1	1	1	1	1	1	1	1	10	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Haddonsex.....	10,870	1	1	1	1	1	1	1	1	1	1	10	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Haddonsex.....	10,870	1	1	1	1	1	1	1	1	1	1	10	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Haddonsex.....	10,870	1	1	1	1	1	1	1	1	1	1	10	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Haddonsex.....	10,870	1	1	1	1	1	1	1	1	1	1	10	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Haddonsex.....	10,870	1	1	1	1	1	1	1	1	1	1	10	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Haddonsex.....	10,870	1	1	1	1	1	1	1	1	1	1	10	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Haddonsex.....	10,870	1	1	1	1	1	1	1	1	1	1	10	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Haddonsex.....	10,870	1	1	1	1	1	1	1	1	1	1	10	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Haddonsex.....	10,870	1	1	1	1	1	1	1	1	1	1	10	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Haddonsex.....	10,870	1	1	1	1	1	1	1	1	1	1	10	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Haddonsex.....	10,870	1	1	1	1	1	1	1	1	1	1	10	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Haddonsex.....	10,870	1	1	1	1	1	1	1	1	1	1	10	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Haddonsex.....	10,870	1	1	1	1	1	1	1	1	1	1	10	1	1	1	1	1										

TABLE 3.—SHOWING OCCUPATIONS OF DECEDENTS IN CITIES OF OVER 5,000 INHABITANTS IN NEW JERSEY, FOR YEAR ENDING DECEMBER 31st, 1901—Continued.

CITIES OF OVER 5,000 INHABITANTS	Estimated Population.	Musicians.	Nurses.	Painters.	Photographers.	Physicians.	Plumbers.	Porters.	Potters.	Printers.	Railroad employees.	Rubber workers.	Sailors.	Salesmen.	Shoemakers.	Silk weavers.	Stonecutters.	Tailors.	Tanners.	Teachers.	Tinsmiths.	Undertakers.	Walters.	Weavers.	Wheelwrights.	Wire workers.	All other occupations.	All other professions.	All other trades.	
Atlantic City	29,740	1	3	1	1	1	2	2	4	1	1	1	2	4	1	1	1	1	1	1	1	1	1	1	1	1	21	7	6	4
Bayonne	35,295	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Bloomfield	9,983	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Bordentown	4,110	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Bridgeton	14,037	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Burlington City	7,892	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Camden City	78,429	3	9	1	1	1	8	12	7	2	5	1	2	1	2	1	1	1	1	1	1	1	1	1	1	1	26	16	19	15
Dover	6,121	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
East Orange	22,222	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
Elizabeth	53,789	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Englewood	6,417	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Gloucester City	6,963	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Hackensack	9,875	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Harrison	10,781	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Hoboken	60,420	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Irvington	5,629	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Jersey City	211,177	1	28	5	7	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Long Branch	9,180	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Millville	10,606	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Montclair	14,404	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Morris	11,462	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Newark	252,123	6	39	1	5	12	2	6	17	35	29	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
New Brunswick	20,025	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
North Plainfield	5,160	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Orange	24,411	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Passaic City	29,754	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
Paterson	106,736	2	16	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
Perth Amboy	18,683	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Phillipsburg	10,246	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Plainfield	15,717	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Rahway	7,935	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Red Bank	5,536	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Salem City	5,811	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
South Amboy	6,505	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Summit	5,472	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Town of Union	15,557	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Trenton	75,465	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
West Orange	7,096	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Totals	1,210,124	8	21	151	2	27	39	2	40	41	189	11	23	118	71	80	26	75	24	2	26	6	26	10	8	7	864	128	574	

TABLE 4.—SHOWING OCCUPATIONS OF DECEDENTS IN NEW JERSEY, BY COUNTIES, EXCLUSIVE OF CITIES OF OVER 5,000 INHABITANTS,
FOR YEAR ENDING DECEMBER 31ST, 1902.

COUNTIES.	Estimated population of counties, exclusive of cities.	Bakers.	Bankers and brokers.	Barbers.	Bartenders, brewers and saloon keepers.	Blacksmiths.	Boatmen.	Bookkeepers.	Brickmakers.	Butchers.	Cigarmakers.	Clergymen.	Clerks.	Cook.	Coopers.	Constables and police-men.	Contractors, carpenters and builders.	Dressmakers and seamstresses.	Drivers, hostlers and teamsters.	Druggists.	Engineers.	Factory employees.		Farmers.	Firemen.	Fishermen.	Florists and gardeners.	Foundrymen and moulders.	Glassblowers.	Glassworkers.	Grinders and polishers.	Grocers.	Hatters.	Hotel keepers, restaurateurs and stewards.	Housekeepers and housewives.	Janitors and watchmen.	
																						M.	F.														
Atlantic.....	13,992	1	1	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	
Bergen.....	44,787	1	1	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	
Burlington.....	23,738	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	
Camden.....	19,778	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	
Cape May.....	24,804	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	
Cumberland.....	24,804	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	
Essex.....	32,058	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	
Gloucester.....	32,058	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	
Hudson.....	44,412	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	
Hunterdon.....	24,804	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	
Mercer.....	24,804	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	
Middlesex.....	33,540	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	
Monmouth.....	63,644	1	1	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	
Morris.....	45,997	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	
Ocean.....	19,949	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	
Passaic.....	28,107	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	
Salmon.....	19,608	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	
Somerset.....	28,298	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	
Sussex.....	24,444	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	
Union.....	19,280	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	
Warren.....	27,635	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	
Totals.....	695,948	15	12	22	27	19	27	20	24	75	10	7	2	157	18	38	7	23	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1

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[illegible]

TABLE 5.—SHOWING NUMBER OF BIRTHS, NUMBER OF DEATHS, BIRTH-RATES AND DEATH-RATES IN NEW JERSEY FOR TWENTY-THREE YEARS ENDING JUNE 30TH, 1901, AND ALSO FOR THE CALENDAR YEAR ENDING DECEMBER 31ST, 1901.

YEAR.	Population.	BIRTHS.		DEATHS.	
		Number of births.	Birth-rates per 1,000 population.	Number of deaths.	Death-rate per 1,000 population.
1879.....	1,020,584	23,116	22.65	20,440	20.03
1880.....	1,130,892	23,680	20.94	18,967	16.77
1881.....	1,131,117	23,484	20.76	20,812	18.39
1882.....	1,131,117	23,108	20.43	25,959	22.90
1883.....	1,131,117	24,430	21.60	23,310	20.60
1884.....	1,131,117	25,263	22.33	21,716	19.20
1885.....	1,278,033	24,077	18.84	23,807	18.63
1886.....	1,278,033	25,497	19.95	22,734	17.80
1887.....	1,278,033	27,340	21.39	24,331	19.04
1888.....	1,278,033	28,074	21.97	27,173	17.01
1889.....	1,397,647	29,099	20.82	26,543	18.99
1890.....	1,441,017	30,103	20.89	28,530	19.80
1891.....	1,478,784	28,882	19.53	28,840	19.50
1892.....	1,511,653	30,627	20.26	32,685	21.62
1893.....	1,538,799	32,285	20.98	30,596	19.88
1894.....	1,578,373	33,662	21.33	30,004	19.09
1895.....	1,672,942	31,742	18.97	30,634	18.31
1896.....	1,718,543	31,207	18.16	30,767	17.90
1897.....	1,764,144	31,595	17.91	29,822	16.90
1898.....	1,810,008	32,515	17.96	27,337	15.11
1899.....	1,855,872	29,419	15.85	30,999	16.70
1900.....	1,883,669	32,270	17.13	31,474	16.62
*1901.....	1,925,781	33,804	17.55	31,048	16.12
†1901.....	1,925,781	34,812	18.08	31,739	16.43

* Year ending June 30th, 1901.

† Year ending December 31st, 1901.

TABLE 6.—SHOWING NUMBER OF DEATHS IN NEW JERSEY FOR THE YEAR ENDING DECEMBER 31ST, 1901, FROM TEN SELECTED PREVENTABLE DISEASES WITH PERCENTAGE OF TOTAL MORTALITY.

NAME OF DISEASE.	Consumption.	Diarrhoeal diseases of children.	Diphtheria.	Typhoid fever.	Scarlet fever.	Erysipelas.	Whooping cough.	Small-pox.	Measles.	Malarial fevers.
Deaths.....	3,257	1,895	683	352	179	171	157	142	77	50
Percentage of total mortality.	10.26	5.97	2.15	1.11	.56	.54	.49	.44	.24	.16

CHART SHOWING DEATHS FROM CERTAIN SPECIFIED DISEASES FOR THE PAST TWENTY-THREE YEARS, ARRANGED IN ORDER OF GREATEST FREQUENCY.

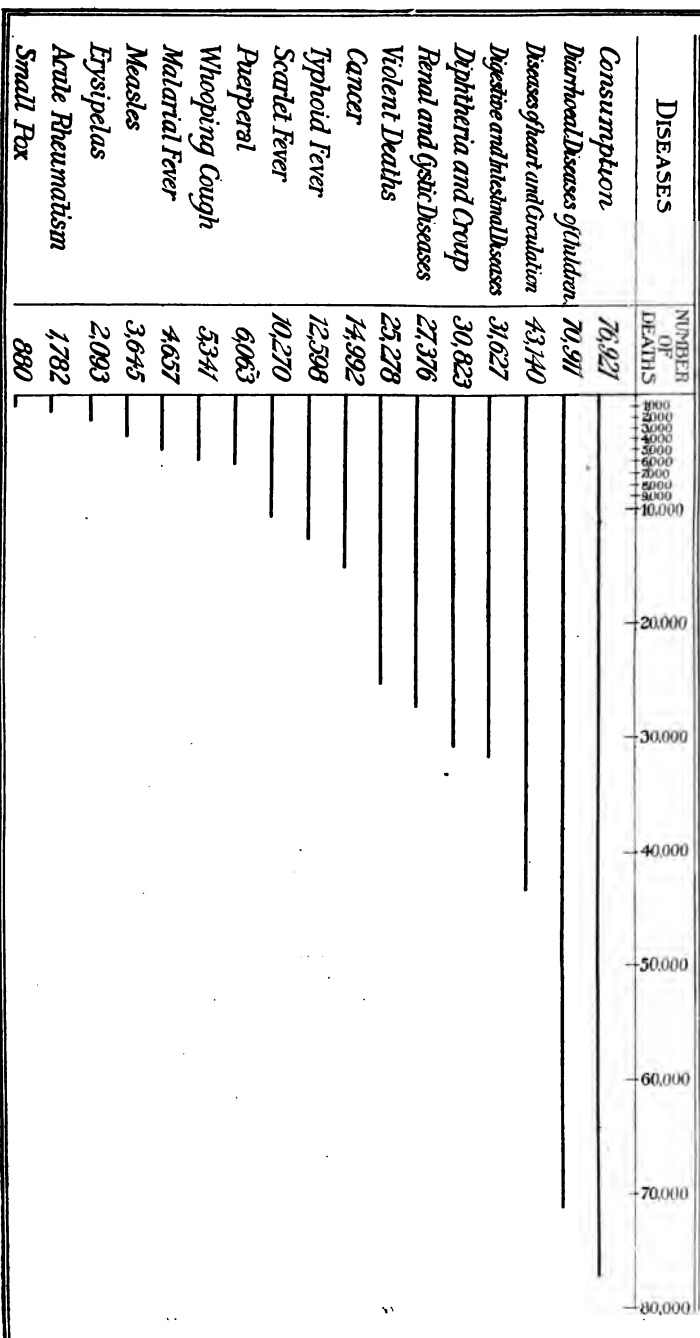


TABLE 7.—SHOWING NUMBER OF DEATHS BY SUICIDE RECORDED IN NEW JERSEY,
BY CITIES AND COUNTIES, FOR THE YEAR ENDING DECEMBER 31st, 1901.

Atlantic County.....	1
Atlantic City.....	4
Bergen County.....	8
Englewood.....	1
Hackensack.....	5
Burlington County.....	4
Bordentown.....	0
Burlington City.....	1
Camden County.....	1
Camden City.....	5
Gloucester City.....	0
Cape May County.....	0
Cumberland County.....	1
Bridgeton.....	0
Millville.....	0
Essex County.....	6
Bloomfield.....	1
East Orange.....	1
Irvington.....	0
Montclair.....	0
Newark.....	73
Orange.....	5
Gloucester County.....	4
Hudson County.....	12
Bayonne.....	4
Harrison.....	1
Hoboken.....	21
Jersey City.....	35
Town of Union.....	4
Hunterdon County.....	2
Mercer County.....	0
Trenton.....	4
Middlesex County.....	6
New Brunswick.....	0
Perth Amboy.....	3
South Amboy.....	1
Monmouth County.....	6
Long Branch.....	3
Red Bank.....	1
Morris County.....	3
Dover.....	0
Morristown.....	2
Ocean County.....	2
Passaic County.....	2
Passaic City.....	2
Paterson.....	5
Salem County.....	2
Salem City.....	0
Somerset County.....	2
North Plainfield.....	6
Sussex County.....	1
Union County.....	1
Elizabeth.....	6
Plainfield.....	3
Rahway.....	1
Summit.....	0
Warren County.....	3
Phillipsburg.....	0

Total 265

Consumption.—An almost uniform rate of decrease has been observed in New Jersey during the past twelve years in the number of deaths from pulmonary tuberculosis, and there is reason to believe that the improvement has to some extent been due to precautions against the spread of this disease, which have been taken in consequence of the popularization of the knowledge which has been gained in recent years concerning the methods by which the tubercle bacillus is transmitted, and therefore we may expect that the diminution in deaths from this cause will continue as the means for averting its ravages become still better known.

During the year ending December 31st, 1901, 3,257 deaths were reported from consumption, or 16.96 deaths for every 10,000 inhabitants living. The records during the past twelve years show that deaths occurred in New Jersey from consumption, per 10,000 inhabitants, as follows: 1890, 25.46; 1891, 23.37; 1892, 23.65; 1893, 22.28; 1894, 21.75; 1895, 21.17; 1896, 19.54; 1897, 18.35; 1898, 17.82; 1899, 19.31; 1900, 18.64; 1901,* 16.91. The establishment of a State sanatorium for the care and instruction of consumptives, under the provisions of the act approved April 3d, 1902, has progressed favorably, a desirable site, containing 500 acres of land, having been selected in Hunterdon county, near Glen Gardiner. The appropriation thus far made by the State is \$50,000. The members of the Commission appointed by the Governor to manage the enterprise are: Dr. Charles J. Kipp, Newark, President; Dr. Austin Scott, President of Rutgers College; Colonel E. A. Stevens, Hoboken; Dr. O. H. Sproul, Flemington; Dr. Elmer Barwis, Trenton; Dr. James S. Green, Elizabeth; Colonel Frank L. Shepherd, Elberon, and Dr. William S. Jones, Camden. One of the next protective measures which sanitary authorities will be called upon to supply for the prevention of the spread of consumption is the exclusion of certain infected persons from the pursuits which require direct contact with other individuals. Infected barbers, dentists and school teachers should be included within the proscribed group, and doubtless many other occupations should be placed in the same list. In factories and mercantile establishments, employes who do not realize the necessity of properly caring for their sputa, or who are heedless of the safety of their fellow-workmen, should be excluded until they come to have an acute perception of the

*Year ending December 31st.

danger of conveying the disease to other persons, and show that they comprehend the risk of adding infectious discharges to the dust of floors, to drinking cups, to the handles of tools, to door-knobs, stair rails, towels, &c.

TABLE 8.—SHOWING DEATHS AND DEATH-RATES FROM CONSUMPTION IN NEW JERSEY BY COUNTIES AND CITIES, PER 10,000 POPULATION, FOR YEAR ENDING DECEMBER 31ST, 1901.

NAMES OF COUNTIES AND CITIES.	Estimated population.	Number of deaths from consumption in entire county.	Number of deaths in cities of over 5,000.	Number of deaths from consumption per 10,000 population in entire county.
Atlantic County.....	48,782	62	.....	12.72
Atlantic City.....	29,740	.....	48	.....
Bergen County.....	81,079	102	.....	12.58
Englewood.....	6,417	.....	7	.....
Hackensack.....	9,876	.....	12	.....
Burlington County.....	58,241	78	.....	12.58
Burlington City.....	7,892	.....	17	.....
Camden County.....	109,151	206	.....	18.87
Camden City.....	78,429	.....	145	.....
Gloucester City.....	6,968	.....	17	.....
Cape May County.....	18,270	20	.....	15.07
Cumberland County.....	51,469	67	.....	18.02
Bridgeton.....	14,087	.....	15	.....
Millville.....	10,606	.....	11	.....
Essex County.....	868,464	728	.....	19.78
Bloomfield.....	9,988	.....	18	.....
East Orange.....	22,222	.....	16	.....
Irrington.....	5,629	.....	5	.....
Montclair.....	14,404	.....	20	.....
Newark.....	262,128	.....	571	.....
Orange.....	24,411	.....	55	.....
West Orange.....	7,096	.....	12	.....
Gloucester County.....	82,048	42	.....	18.11
Hudson County.....	897,642	828	.....	20.06
Bayonne.....	85,296	.....	65	.....
Harrison.....	10,781	.....	19	.....
Hoboken.....	60,420	.....	149	.....
Jersey City.....	211,177	.....	458	.....
Town of Union.....	15,557	.....	19	.....
Hunterdon County.....	84,507	87	.....	10.72
Mercer County.....	97,880	158	.....	15.71
Trenton.....	75,465	.....	129	.....
Middlesex County.....	81,708	101	.....	12.86
New Brunswick.....	20,225	.....	88	.....
Perth Amboy.....	18,638	.....	17	.....
South Amboy.....	6,506	.....	12	.....
Monmouth County.....	88,860	181	.....	15.71
Long Branch.....	9,180	.....	15	.....
Red Bank.....	5,536	.....	15	.....
Morris County.....	66,280	96	.....	14.48
Dover.....	6,121	.....	11	.....
Morristown.....	11,462	.....	22	.....
Ocean County.....	19,949	80	.....	80.15
Passaic County.....	159,507	247	.....	15.48
Passaic.....	29,754	.....	88	.....
Paterson.....	106,786	.....	191	.....
Salem County.....	25,419	89	.....	15.84
Salem City.....	5,811	.....	11	.....
Somerset County.....	88,448	44	.....	18.15
North Plainfield.....	5,160	.....	10	.....
Sussex County.....	24,444	17	.....	6.96
Union County.....	102,148	178	.....	17.48
Elizabeth.....	58,789	.....	105	.....
Plainfield.....	15,717	.....	20	.....
Rahway.....	7,985	11
Summit.....	5,472	11
Warren County.....	87,881	48	12.91
Phillipsburg.....	10,246	17

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TABLE 9.—SHOWING DEATHS PER 10,000 POPULATION FROM CONSUMPTION IN NEW JERSEY FOR TWENTY-THREE YEARS.

YEARS.	Population *	Number of deaths from consumption.	Deaths from consumption per 1,000 population.
1879.....	1,020,584	2,788	27.32
1880.....	1,130,892	2,714	24.00
1881.....	1,160,275	2,989	25.76
1882.....	1,189,658	3,475	29.21
1883.....	1,209,048	3,121	25.81
1884.....	1,248,224	3,215	25.76
1885.....	1,278,033	3,320	25.19
1886.....	1,310,431	3,205	24.46
1887.....	1,342,829	3,653	27.20
1888.....	1,375,227	3,358	24.42
1889.....	1,407,625	3,449	24.50
1890.....	1,441,017	3,669	25.46
1891.....	1,478,784	3,456	23.37
1892.....	1,511,653	3,575	23.65
1893.....	1,538,799	3,429	22.28
1894.....	1,578,373	3,433	21.75
1895.....	1,672,942	3,542	21.17
1896.....	1,718,543	3,358	19.54
1897.....	1,764,144	3,237	18.35
1898.....	1,810,008	3,225	17.82
1899.....	1,855,872	3,584	19.31
1900.....	1,883,669	3,514	18.64
1901.....	1,925,781	3,257	16.91

*Population estimated except for census years.

NOTE.—The tabulations for 1879-1900 are made for the statistical year ending June 30th. Commencing with the new century the statistical year ends December 31st.

TABLE 10.—SHOWING THE PROPORTION OF DEATHS FROM CONSUMPTION TO TOTAL DEATHS DURING TWENTY-THREE YEARS.

YEARS.	Total deaths in New Jersey.	Deaths from consumption.	Proportion of deaths from consumption to total deaths.
1879.....	20,444	2,788	13.64
1880.....	18,967	2,714	14.30
1881.....	20,810	2,989	14.36
1882.....	25,910	3,475	13.41
1883.....	23,310	3,121	13.39
1884.....	21,716	3,215	14.80
1885.....	23,807	3,320	13.94
1886.....	22,734	3,205	14.10
1887.....	24,331	3,653	15.01
1888.....	27,173	3,358	12.44
1889.....	26,543	3,449	12.99
1890.....	28,530	3,669	12.96
1891.....	28,840	3,456	11.98
1892.....	32,685	3,575	10.94
1893.....	30,596	3,429	11.21
1894.....	30,004	3,433	11.44
1895.....	30,634	3,542	11.56
1896.....	30,767	3,358	10.92
1897.....	29,822	3,237	10.85
1898.....	27,337	3,225	11.79
1899.....	30,999	3,584	11.56
1900.....	31,474	3,514	11.17
1901*.....	31,739	3,257	10.26

* Year ending December 31st, 1901.

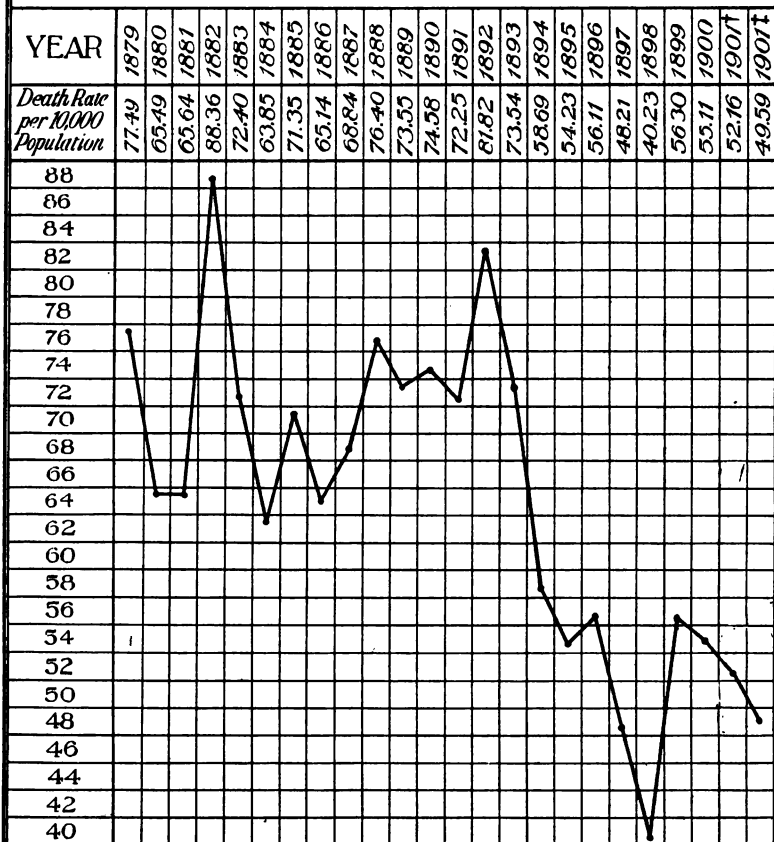
TABLE 11.—SHOWING DEATHS IN NEW JERSEY FROM CONSUMPTION, WITH AGES OF DECEDENTS, FOR YEAR ENDING DECEMBER 31st, 1901.

NUMBER OF DEATHS FROM CONSUMPTION.	AGE PERIODS.																		Total.
	Under 1 month.	Under 1 year.	1 to 5.	5 to 10.	10 to 15.	15 to 20.	20 to 25.	25 to 30.	30 to 35.	35 to 40.	40 to 45.	45 to 50.	50 to 55.	55 to 60.	60 to 70.	70 to 80.	80 to 90.	Over 90.	
	237	41	32	40	201	480	507	466	361	306	204	163	157	199	87	20	1	4	
																			8,257

Infant Mortality.—The number of deaths among children under five years of age in New Jersey began to diminish about the time when medical men began to teach the methods of freeing milk from pathogenic bacteria by the use of heat, and the saving of lives which has resulted from the application of this precaution is clearly shown in the accompanying chart. Comparison of temperature records with the mortality tables for the past eight years indicates that increased death-rates during the summer season each year are due to the more rapid bacterial development in food during the hot weather months than during the cooler weather of other portions of the year, and there seems to be no evidence to show that the health of infants is unfavorably affected by ordinary summer temperatures. But the care necessary to prevent the multiplying of bacteria in milk in summer is far greater than in cool weather, and reheating the milk just before feeding is often required to insure the continued safety of the day's supply.

The preventable affections which are next in importance to diarrhoeal diseases as a source of danger to infant life, viz., diphtheria, whooping cough, scarlet fever and measles, have been less fatal during the past year than usual, as the accompanying chart shows:

CHART SHOWING DEATHS IN NEW JERSEY
AMONG CHILDREN UNDER FIVE YEARS OF
AGE PER 10,000 POPULATION FOR TWENTY
THREE YEARS



† Year Ending June 30, 1901.

‡ Year Ending December 31, 1901.

TABLE 12.—SHOWING MUNICIPALITIES IN NEW JERSEY HAVING OVER 5,000 INHABITANTS, AND SHOWING ALSO POPULATION, TOTAL DEATHS, DEATHS UNDER ONE YEAR, DEATHS UNDER FIVE YEARS, AND TOTAL DEATH-RATE PER 1,000 POPULATION, FOR THE YEAR ENDING DECEMBER 31ST, 1901.

NAMES OF MUNICIPALITIES.	Estimated population.	Number of deaths for year ending December 31st, 1901.	Deaths under one year.	Deaths under five and over one year.	Death-rate per 1,000 population.
Atlantic County—					
Atlantic City.....	29,740	549	101	44	10.85
Bergen County—					
Englewood.....	6,417	101	22	4	15.74
Hackensack.....	9,875	178	80	12	17.52
Burlington County—					
Burlington.....	7,892	146	81	11	19.75
Camden County—					
Camden.....	78,429	1,877	827	115	17.56
Gloucester City.....	6,968	158	86	5	11.27
Cumberland County—					
Bridgeton.....	14,087	157	27	6	18.32
Millville.....	10,606	165	28	12	14.61
Essex County—					
Bloomfield.....	9,968	145	20	11	14.55
East Orange.....	22,222	216	88	19	9.71
Irvington.....	5,629	52	18	6	9.24
Montclair.....	14,404	248	89	12	16.87
Newark.....	262,128	4,826	1,084	471	19.14
Orange.....	24,411	426	104	82	17.45
West Orange.....	7,096	94	17	4	18.25
Hudson County—					
Bayonne.....	85,295	578	156	108	16.88
Harrison.....	10,781	229	55	25	21.34
Hoboken.....	60,420	1,128	241	121	18.67
Jersey City.....	211,177	4,088	948	472	19.12
Town of Union.....	15,557	275	57	40	11.25
Mercer County—					
Trenton.....	75,465	1,284	264	77	16.85
Middlesex County—					
New Brunswick.....	20,025	364	66	22	18.18
Perth Amboy.....	18,688	308	105	47	16.58
South Amboy.....	6,505	105	29	9	16.14
Monmouth County—					
Long Branch.....	9,180	221	48	11	24.07
Red Bank.....	5,586	91	17	10	16.44
Morris County—					
Dover.....	6,121	98	28	8	16.01
Morristown.....	11,462	212	22	17	18.50
Passaic County—					
Passaic.....	29,754	542	205	99	18.22
Paterson.....	106,786	1,871	482	147	17.58
Salem County—					
Salem City.....	5,811	82	15	6	14.11
Somerset County—					
North Plainfield.....	5,160	64	11	2	12.40
Union County—					
Elizabeth.....	58,789	956	241	89	17.77
Plainfield.....	15,717	257	48	14	16.36
Rahway.....	7,985	118	15	6	14.87
Summit.....	5,472	80	21	8	14.62
Warren County—					
Phillipsburg.....	10,246	152	22	18	14.84
State.....	1,925,781	81,789	6,720	2,829	16.48

TABLE 13.—DEATHS AMONG CHILDREN UNDER FIVE YEARS OF AGE IN NEW JERSEY,
PER 10,000 POPULATION FOR TWENTY-THREE YEARS.

YEARS.	Population.	Number of deaths under five years.	Deaths per 10,000 population among children under five years.
1879.....	1,020,584	7,919	77.49
*1880.....	1,130,892	7,407	65.49
1881.....	1,160,275	7,617	65.64
1882.....	1,189,658	10,512	88.86
1883.....	1,209,048	8,710	72.40
1884.....	1,248,224	7,971	63.85
*1885.....	1,278,033	9,120	71.35
1886.....	1,310,431	8,537	65.14
1887.....	1,342,829	9,245	68.84
1888.....	1,375,227	10,508	76.40
1889.....	1,407,642	10,354	73.55
*1890.....	1,441,017	10,748	74.58
1891.....	1,478,784	10,685	72.25
1892.....	1,511,653	12,369	81.82
1893.....	1,538,799	11,307	73.54
1894.....	1,578,373	9,264	58.69
*1895.....	1,679,942	9,074	54.23
1896.....	1,718,543	8,504	56.11
1897.....	1,764,144	9,643	48.21
1898.....	1,810,008	7,283	40.23
1899.....	1,855,872	10,357	56.30
*1900.....	1,883,669	10,453	55.11
†1901.....	1,925,781	10,045	52.16
‡1901.....	1,925,781	9,549	49.59

* Census year.

† Year ending June 30th, 1901.

‡ Year ending December 31st, 1901.

CHART SHOWING DEATHS IN NEW JERSEY FROM CERTAIN SELECTED DISEASES
FOR THE YEAR ENDING DECEMBER 31st, 1901, COMPARED WITH AVERAGE
FOR TWENTY-THREE YEARS, 1879-1901.

DISEASES.	Average number of deaths for twenty- three years.	Number of deaths for year ending Decem- ber 31st, 1901.										
			100	200	300	400	500	1,000	1,500	2,000	2,500	3,000
Diarrhœal diseases of children.....	3,127	1,895	-----									
Diphtheria.....	1,340	683	-----									
Scarlet Fever	447	179	-----									
Whooping Cough.....	232	157	-----									
Small-pox.....	38	142	-----									

Dotted lines show averages.

TABLE 14.—SHOWING NUMBER OF DEATHS IN NEW JERSEY AMONG CHILDREN UNDER FIVE YEARS OF AGE IN MANUFACTURING DISTRICTS, AND ALSO IN COUNTIES OUTSIDE OF THE LARGER TOWNS, WITH COMPARATIVE MORTALITY

NAMES OF MANUFACTURING TOWNS.	Estimated population, 1902.	Number of deaths occurring in children under five years of age.	Number of deaths of chil- dren under five years of age for each 1,000 of population.	Estimated population of counties outside of larger cities.	Number of deaths occurring in children under five years of age in counties outside of larger cities.	Number of deaths of chil- dren under five years of age for each 1,000 of population in counties outside of larger cities.
Bayonne.....	35,295	259	7.33	64,412	250	3.88
Beverly.....	1,950	17	8.70	46,739	130	2.78
Boonton.....	3,901	14	3.58	48,697	123	2.52
Bordentown.....	4,110	27	6.56	46,739	130	2.78
Bound Brook.....	2,622	12	4.57	27,582	32	1.16
Bridgeton.....	14,037	33	2.35	26,826	37	1.00
Burlington.....	7,392	42	5.68	46,739	130	2.78
Camden.....	78,429	442	5.89	23,759	97	4.08
Carlstadt.....	2,574	14	5.43	64,777	105	1.62
Elizabeth.....	53,789	330	6.13	24,702	65	2.63
Garfield.....	3,544	27	7.62	64,777	105	1.62
Gloucester City.....	6,963	41	5.88	23,759	97	4.08
Hoboken.....	60,420	362	5.99	64,412	250	3.88
Jersey City.....	211,177	1,415	6.70	64,412	250	3.86
Lambertville.....	4,637	11	2.57	29,870	65	2.17
Lodi.....	1,917	13	6.72	64,777	105	1.62
Millburn.....	2,837	6	2.11	32,596	110	3.37
Milltown.....	561	3	5.34	36,540	110	3.01
Millville.....	10,606	40	3.76	26,826	37	1.37
Newark.....	252,123	1,505	5.96	32,596	110	3.37
New Brunswick.....	20,025	88	4.34	36,540	110	3.01
Orange.....	24,411	136	5.57	32,596	110	3.37
Passaic City.....	29,754	304	10.21	23,097	101	4.37
Paterson.....	106,736	629	5.79	23,097	101	4.37
Perth Amboy.....	18,633	152	8.15	36,540	110	3.01
Phillipsburg.....	10,246	35	3.41	27,535	68	2.46
Plainfield.....	15,717	57	3.69	24,702	65	2.63
Port Oram.....	2,069	12	5.79	48,697	123	2.52
Rahway.....	7,935	21	2.64	24,702	65	2.63
Raritan (Som. Co.).....	3,244	17	5.24	27,582	32	1.16
Riverside Bor. (Bur. Co.)..	1,332	9	6.75	46,739	130	2.78
Salem City.....	5,811	21	3.61	19,608	57	2.90
South River.....	2,792	17	6.08	36,540	110	3.01
Town of Union.....	15,557	97	6.23	64,412	250	3.86
Trenton.....	75,465	341	4.51	21,865	58	1.28
Vineland.....	4,370	14	3.20	26,826	37	1.37

TABLE 15.—SHOWING DEATHS IN NEW JERSEY FROM DIARRHOEAL DISEASES OF CHILDREN, WITH AGES AT DEATH, FOR YEAR ENDING DECEMBER 31st, 1901.

NUMBER OF DEATHS FROM DIARRHOEAL DISEASES OF CHILDREN.	AGE PERIODS.					Total.
	Under 1 month.	Under 1 year.	1 to 5.	5 to 10.	Age not stated.	
	96	1,386	305	96	12	
						1,895

Diphtheria.—The number of deaths which occurred in New Jersey from diphtheria during the year ending December 31st, 1901, was 683. This is 244 less than the number of deaths caused by this disease during the statistical year ending June 30th, 1900, and it is a much smaller number than has been recorded during any one of the past twenty-three years. This improvement is unquestionably due, in a large degree, to treatment, and it marks one of the most notable advances in modern therapeutics.

TABLE 16.—DEATHS IN NEW JERSEY FROM DIPHTHERIA FOR THE TWENTY-THREE YEARS, 1879-1901.

Years	1879.	1880.	1881.	1882.	1883.	1884.	1885.	1886.	1887.	1888.	1889.	1890.
Deaths from } diphtheria. }	1,100	878	1,128	1,472	1,146	1,027	1,496	1,808	1,527	2,086	1,574	1,575
Years	1891.	1892.	1893.	1894.	1895.	1896.	1897.	1898.	1899.	1900.	1901.*	
Deaths from } diphtheria. }	1,787	1,776	1,627	1,294	1,464	1,758	1,332	950	777	927	683	

* Year ending December 31st, 1901.

TABLE 17.—SHOWING DEATHS IN NEW JERSEY FROM DIPHTHERIA, WITH AGES OF DECEDENTS, FOR YEAR ENDING DECEMBER 31st, 1901.

NUMBER OF DEATHS FROM DIPHTHERIA.	AGE PERIODS.																	Total.
	Under 1 month.	Under 1 year.																
	1 to 5.	5 to 10.	10 to 15.	15 to 20.	20 to 25.	25 to 30.	30 to 35.	35 to 40.	40 to 45.	45 to 50.	50 to 55.	55 to 60.	60 to 70.	70 to 80.	80 to 90.	Over 90.	Age not stated.	
	132	391	192	41	9	1	6	1	1	2	...	1	1	1	1	1	1	683

TABLE 18.—DEATHS FROM DIPHTHERIA IN THE CITIES OF OVER 5,000 POPULATION IN NEW JERSEY FOR THIRTEEN YEARS.

NAME OF PLACE.	Estimated population.	1889.	1890.	1891.	1892.	1893.	1894.	1895.	1896.	1897.	1898.	1899.	1900.	1901. ^a	1901. ^b
Atlantic City.....	29,740	8	4	15	8	8	†	7	11	8	5	7	15	11	8
Bayonne.....	35,295	59	10	14	16	13	13	15	52	14	13	8	15	15	9
Bloomfield*.....	9,983														7
Bridgeton.....	14,087	2	6	40	10	2	2	1	8	12	2	4	1	3	1
Burlington.....	7,392	4	3	10	19	11	16	9	24	5	7				1
Camden.....	78,429	32	76	192	150	89	90	84	60	95	48	66	104	115	58
Dover†.....	6,121									5	4	1	1	4	1
East Orange‡.....	22,222													2	3
Elizabeth.....	53,789	40	40	51	18	47	44	22	49	32	25	27	21	39	26
Englewood†.....	6,417									1	1		2		2
Gloucester.....	6,963	11	13	5	6	4	4	7	3	6	1	6	3	1	.....
Hackensack.....	9,875					1	2	2	1	2	5	4	2	2	1
Harrison.....	10,781	28	8	10	8	6	7	8	15	4	6	4	11	1	14
Hoboken.....	60,420	162	126	93	70	77	56	95	103	53	45	46	33	34	28
Irvington*.....	5,628														2
Jersey City.....	211,177	228	341	295	261	221	272	187	299	229	156	102	119	123	112
Long Branch.....	9,180	4	9	6	2	4	4	2	9	7	2		15	2	3
Millville.....	10,606	9	17	27	3	2	7	6	6	3	14	1	14	3	1
Montclair‡.....	14,404									9	2	8	4	8	2
Morristown.....	11,462	80	5	5	5	8		9	6	1	4	1		2	3
Newark.....	252,123	343	314	196	219	275	173	256	330	177	117	126	142	123	96
New Brunswick.....	20,025	50	23	5	29	7	11	17	23	9	10	6	2	5	4
North Plainfield*.....	5,162														3
Orange.....	24,411	22	44	41	39	23	11	15	47	18	29	15	11	5	2
Passaic.....	29,754	25	20	32	23	14	13	14	29	33	9	10	8	9	17
Paterson.....	106,736	78	68	161	142	96	151	85	125	177	68	86	101	43	27
Perth Amboy.....	18,633	8	6	29	12	22	20	11	4	18	16	13	9	11	23
Phillipsburg.....	10,246	12	7	2	8	11	2	10	6	19	5	2	1	4	3
Plainfield.....	15,717	3	12	4	5	33	14	14	4	1	7	2	2	3	3
Rahway.....	7,935	1	6	4	2	9	1	8	5	1	2	3	3	1	2
Red Bank*.....	5,536														4
Salem.....	5,811	13	1		1	6	2	2	15	11	18	8	3	1	.....
South Amboy.....	6,505									34	5	3	5	1	1
Summit.....	5,472														
Town of Union.....	15,557	27	44	53	12	17	13	25	10	7	8	7	8	18	17
Trenton.....	75,465	20	43	67	135	91	36	158	90	83	16	12	19	13	10
West Orange*.....	7,096														
Total.....	1,187,228	1,214	1,214	1,357	1,203	1,097	972	1,065	1,343	1,017	656	574	681	597	486

* Record began 1901.

† Record began 1897.

‡ East Orange was incorporated as a city in 1901.

§ Record began 1896.

^a Year ending June 30th.^b Year ending December 31st.

Cancer.—The deaths caused by cancer have increased during the past year, and the proportion per 100,000 inhabitants has risen, as shown by the tables which follow, to 54.3. No age is exempt from ravages of this disease, but the period between fifty and seventy-five is shown to be most liable to its development. No satisfactory explanation has yet been offered to account for the increase in the number of deaths from cancer, notwithstanding the activity displayed in recent years in the search for the cause. Many hypotheses have been advanced, but none has been generally accepted, though at present a prevailing belief is to the effect that the increase in the number of reported cases of cancer is due to increase of longevity. In New Jersey the deaths from this disease during the past twenty-three years have exceeded in number those caused by typhoid fever, and they also have exceeded the combined number of deaths from scarlet fever, measles and small-pox. Sanitarians possess no information which warrants the employment of any line of action for the prevention of cancer, and the increasing mortality from this disease is a source of profound anxiety to public health officers.

TABLE 19.—SHOWING DEATHS FROM CANCER IN NEW JERSEY, PER 100,000 POPULATION, FOR TWENTY-THREE YEARS.

Years.	1879.	1880.	1881.	1882.	1883.	1884.	1885.	1886.	1887.	1888.	1889.	1890.
Deaths per 100,- 000 population }	37.0	37.5	38.8	38.7	38.1	38.7	38.9	41.5	42.1	44.5	41.1	44.1

Years	1891.	1892.	1893.	1894.	1895.	1896.	1897.	1898.	1899.	1900.	1901.*	1901.†
Deaths per 100,- 000 population }	48.4	45.5	46.9	46.8	46.0	47.1	48.8	47.0	51.0	48.4	52.0	54.3

* Year ending June 30th, 1901.

† Year ending December 31st, 1901.

TABLE 20.—DEATHS FROM CANCER, SHOWING ORGANS AFFECTED BY THE DISEASE, AND AGE AT DEATH, FOR THE YEAR ENDING DECEMBER 31ST, 1901.

CANCER.	Under 1 month.	Under 1 year.	1 to 5.	5 to 10.	10 to 15.	15 to 20.	20 to 25.	25 to 30.	30 to 35.	35 to 40.	40 to 45.	45 to 50.	50 to 55.	55 to 60.	60 to 70.	70 to 80.	80 to 90.	Over 90.	Not stated.	Totals.
Of the mouth.	1	1	2	1	1	2	2	2	1	1	...	...	...	14
Of the stomach and liver.	1	1	...	...	...	2	4	6	23	33	34	42	54	78	65	11	...	...	354
Of the intestines and rectum.	1	...	2	1	5	3	7	12	16	22	12	3	...	...	84
Of the female genital organs.	3	1	6	10	16	22	17	20	24	11	1	...	...	131
Of the breast.	2	2	6	7	5	14	16	6	5	1	1	65
Of the skin.	1	1	1	3
Others.	2	3	3	4	2	3	7	20	30	35	48	47	98	64	22	4	...	392
Total	1,043

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TABLE 21.—DEATHS FROM CANCER IN NEW JERSEY FOR THE YEAR ENDING DECEMBER 31ST, 1901, PER 10,000 POPULATION, BY COUNTIES AND BY CITIES OF OVER 5,000 INHABITANTS.

NAME OF PLACE.	Deaths from cancer.	Deaths per 10,000 population.
Atlantic County.....	18	8.72
Atlantic City.....	11	3.70
Bergen County.....	84	4.07
Englewood.....	1	1.56
Hackensack.....	8	3.04
Burlington County.....	26	4.46
Burlington City.....	2	2.71
Camden County.....	58	4.86
Camden City.....	41	5.22
Gloucester City.....	5	7.18
Cape May County.....	6	4.52
Cumberland County.....	25	4.80
Bridgeton.....	9	6.41
Millville.....	6	5.66
Essex County.....	247	6.70
Bloomfield.....	3	3.01
East Orange.....	6	2.70
Irvington.....	2	3.55
Montclair.....	18	9.08
Newark.....	171	6.78
Orange.....	13	5.83
West Orange.....	6	8.46
Gloucester County.....	13	4.06
Hudson County.....	202	5.08
Bayonne.....	12	3.40
Harrison.....	5	4.64
Hoboken.....	82	5.30
Jersey City.....	105	4.97
Town of Union.....	10	6.31
Hunterdon County.....	19	5.51
Mercer County.....	48	4.98
Trenton.....	37	4.90
Middlesex County.....	38	4.65
New Brunswick.....	18	8.99
Perth Amboy.....	5	2.68
South Amboy.....	3	4.61
Monmouth County.....	60	7.20
Long Branch.....	12	13.07
Red Bank.....	4	7.28
Morris County.....	40	6.06
Dover.....	3	4.90
Morristown.....	9	7.85
Ocean County.....	12	6.02
Passaic County.....	95	5.95
Passaic City.....	14	4.71
Paterson.....	75	7.03
Salem County.....	12	4.78
Salem City.....	0	0
Somerset County.....	12	3.58
North Plainfield.....	1	1.94
Sumner County.....	16	6.55
Union County.....	60	5.87
Elizabeth.....	20	3.72
Plainfield.....	18	11.45
Rahway.....	5	6.30
Summit.....	5	9.14
Warren County.....	16	4.22
Phillipsburg.....	7	6.88
Total in cities of over 5,000 inhabitants.....		689
Total for State.....		1,043
Rate per 10,000 population.....		5.43

Typhoid Fever.—This disease caused 352 deaths during the year ending December 31st, 1901, or 1.93 per 10,000 population. An accompanying table shows the localities in which deaths occurred from this disease:

TABLE 22.—SANITARY DISTRICTS IN NEW JERSEY IN WHICH DEATHS FROM TYPHOID FEVER OCCURRED DURING THE YEAR ENDING DECEMBER 31ST, 1901, WITH POPULATION, NUMBER OF DEATHS, SOURCE OF WATER-SUPPLY AND NATURE OF DRAINAGE

NAME OF SANITARY DISTRICT.	Population, 1900.	Number of deaths from typhoid fever.	Water-supply.	Drainage.
Allenhurst (borough)	165	1	Public.....	Sewers.
Acquackanonk township.....	5,351	1	Domestic	No sewers.
Atlantic City.....	27,838	5	Public.....	Sewers.
Bayonne.....	32,722	3	"	"
Belmar (borough).....	902	1	"	"
Belvidere township.....	1,784	1	"	"
Buena Vista township.....	1,646	1	Domestic	No sewers.
Beverly (city).....	1,804	1	Public.....	Sewers.
Bogota (borough)	337	1	"	"
Bordentown.....	4,110	1	"	"
Bridgeton	13,913	3	"	"
Burlington (city).....	7,392	4	"	"
Byram township	1,235	1	Domestic	No sewers.
Caldwell (borough).....	1,367	3	"	"
Camden City.....	75,935	9	Public.....	Sewers.
Cape May City.....	2,257	1	"	"
Cape May Point (borough).....	153	1	Domestic	No sewers.
Centre township.....	2,192	1	"	"
Chester township (B.)*.....	4,420	1	"	"
Clinton township (E.).....	1,325	1	"	"
Clinton township (H.).....	2,296	2	"	"
Delaware township (C.).....	1,679	2	"	"
Dunellen (borough).....	1,239	1	"	"
East Orange.....	3,682	2	Public.....	Sewers.
Egg Harbor township.....	1,863	1	Domestic	No sewers
Elizabeth.....	52,130	15	Public.....	Sewers.
Elk	997	2	Domestic	No sewers.
Englewood.....	6,253	2	Public.....	Sewers.
Evesham	1,429	1	Domestic	No sewers.
Fairfield township (C.).....	1,911	2	"	"
Fanwood township.....	1,200	1	"	"
Florence township.....	1,955	1	"	"
Glen Ridge (borough).....	1,960	1	Public.....	Sewers.
Gloucester township (C.).....	4,018	3	Domestic	No sewers.

* Letter in parentheses designates county.

TABLE 22.—SANITARY DISTRICTS IN NEW JERSEY IN WHICH DEATHS FROM TYPHOID FEVER OCCURRED DURING THE YEAR ENDING DECEMBER 31ST, 1901, WITH POPULATION, NUMBER OF DEATHS, SOURCE OF WATER-SUPPLY AND NATURE OF DRAINAGE—*Continued.*

NAME OF SANITARY DISTRICT.	Population, 1900.	Number of deaths from typhoid fever.	Water-supply.	Drainage.
Greenwich township.....	1,283	1	Domestic....	No sewers.
Guttenberg.....	3,825	2	Public.....	Sewers.
Hackensack.....	9,448	1	"	"
Haddonfield (borough).....	2,776	2	"	"
Haddon township.....	2,012	2	Domestic....	No sewers.
Hamilton township (M.)	4,164	1	"	"
Hardyston.....	3,425	1	"	"
Harrison.....	10,596	1	Public.....	"
High Bridge (borough).....	1,377	1	Domestic....	"
Hightstown (borough).....	1,749	1	Public.....	"
Hoboken.....	59,364	17	"	Sewers.
Hopewell township (C.)	1,807	1	Domestic....	No sewers.
Jersey City	206,433	33	Public.....	Sewers
Kearny.. ..	10,896	3	"	"
Lambertville	4,637	1	"	"
Landis township ..	4,721	1	Domestic....	No sewers.
Lebanon township.....	2,253	1	"	"
Linwood (borough).....	495	1	"	"
Little Ferry (borough).....	1,240	1	Public.....	"
Lodi (borough)	1,917	1	"	"
Logan township.....	1,444	2	Domestic....	"
Long Branch	8,872	4	Public.....	Sewers.
Mantua township.	2,101	1	Domestic....	No sewers.
Mendham township.....	1,600	1	"	"
Merchantville (borough).....	1,608	1	Public.....	Sewers.
Middletown township.....	5,479	4	Domestic....	No sewers.
Millburn township.. ..	2,837	3	"	"
Millville.....	10,583	3	Public.....	Sewers.
Montclair	13,962	2	"	"
Morristown	11,267	4	"	No sewers
Neptune township	7,943	1	Domestic....	"
Netcong (borough).....	941	1	"	"
Newark.....	246,070	53	Public.....	Sewers.
New Brunswick.....	20,006	6	"	"
New Hanover.....	1,827	1	Domestic....	No sewers.
Newton.....	4,376	1	Public.....	"
North Bergen.....	9,213	1	"	"
Orange.....	24,141	3	"	Sewers.
Oxford township.....	3,095	2	Domestic....	No sewers.
Palmyra.....	2,300	1	"	"
Passaic City.....	27,777	5	Public.....	Sewers.
Paterson.....	105,171	27	"	"

TABLE 22.—SANITARY DISTRICTS IN NEW JERSEY IN WHICH DEATHS FROM TYPHOID FEVER OCCURRED DURING THE YEAR ENDING DECEMBER 31st, 1901, WITH POPULATION, NUMBER OF DEATHS, SOURCE OF WATER-SUPPLY AND NATURE OF DRAINAGE—*Continued.*

NAME OF SANITARY DISTRICT.	Population, 1900.	Number of deaths from typhoid fever.	Water-supply.	Drainage.
Pensauken township.....	3,145	3	Public.....	No sewers.
Pequannock township.....	3,250	1	Domestic....	"
Perth Amboy.....	17,699	3	Public.....	Sewers.
Phillipsburg.....	10,062	3	".....	"
Plainfield.....	15,369	7	".....	"
Point Pleasant Beach (borough)....	746	1	".....	No sewers.
Princeton township.....	955	1	Domestic....	"
Prospect Park (borough) .....	.....	1	Public.....	Sewers.
Rahway.....	7,935	1	".....	"
Raritan township (Mon.).....	1,524	2	Domestic....	No sewers.
Red Bank.....	5,428	2	Public.....	Sewers.
Riverside (borough) (B.).....	561	1	".....	"
Rutherford (borough).....	4,411	1	".....	No sewers.
Sayreville.....	4,155	1	Domestic....	"
Shamong township.....	910	1	".....	"
South Orange township.....	1,630	1	".....	"
Stafford township.....	1,009	1	".....	"
Stillwater township.....	1,108	1	".....	"
Summit.....	5,302	1	Public.....	Sewers.
Town of Union.....	15,187	1	".....	"
Trenton.....	73,307	14	".....	"
Warren township.....	1,008	1	Domestic....	No sewers.
West Cape May (borough)	696	1	Public.....	"
West Hoboken.....	23,094	3	".....	Sewers.
West New York.....	5,267	2	".....	"
West Orange.....	6,889	1	".....	No sewers.
Willingboro township.....	673	1	Domestic....	"
Winslow township.....	2,392	1	".....	"
Woodbridge township.....	7,631	1	Public.....	"
Woolwich township.....	2,291	2	Domestic....	"

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TABLE 23.—SHOWING DEATHS PER 10,000 POPULATION FROM TYPHOID FEVER IN NEW JERSEY FOR TWENTY-THREE YEARS.

YEAR.	Population.*	Number of deaths from typhoid fever.	Deaths from typhoid fever per 10,000 population.
1879.....	1,020,581	324	3.17
1880.....	1,130,892	373	3.29
1881.....	1,160,275	574	4.94
1882.....	1,189,658	884	7.43
1883.....	1,209,048	564	4.66
1884.....	1,248,224	640	5.12
1885.....	1,278,033	642	5.02
1886.....	1,310,431	545	4.15
1887.....	1,342,829	522	3.88
1888.....	1,375,227	620	4.50
1889.....	1,407,625	724	5.14
1890.....	1,441,017	782	5.42
1891.....	1,478,784	695	4.69
1892.....	1,511,653	628	4.15
1893.....	1,538,799	506	3.28
1894.....	1,578,373	485	3.07
1895.....	1,672,942	568	3.39
1896.....	1,718,543	577	3.35
1897.....	1,764,144	478	2.70
1898.....	1,810,008	450	2.48
1899.....	1,855,872	486	2.62
1900.....	1,883,669	356	1.87
†1901.....	1,925,781	375	1.95
‡1901.....	1,925,781	352	1.93

*Population estimated except for census year.

†Year ending June 30th, 1901.

‡Year ending December 31st, 1901.

TABLE 24.—SHOWING DEATHS IN NEW JERSEY FROM TYPHOID FEVER, WITH AGE AT DEATH, FOR YEAR ENDING DECEMBER 31st, 1901.

NUMBER OF DEATHS FROM TYPHOID FEVER.	AGE PERIODS.																		Total.	
	Under 1 month.	Under 1 year.	1 to 5.	5 to 10.	10 to 15.	15 to 20.	20 to 25.	25 to 30.	30 to 35.	35 to 40.	40 to 45.	45 to 50.	50 to 55.	55 to 60.	60 to 70.	70 to 80.	80 to 90.	Over 90.		Not stated.
	1	1	13	22	16	41	44	63	43	31	20	16	9	8	13	9	1	0	1	32

Scarlet Fever.—The mild type which this disease has assumed in recent years has continued during the year ending December 31st, 1901, and the tables show that the proportion of deaths was only .93 per 10,000 inhabitants.

TABLE 25.—SHOWING DEATHS IN NEW JERSEY FROM SCARLET FEVER FOR THE TWENTY-THREE YEARS ENDING JUNE 30TH, 1901.

Year	1879.	1880.	1881.	1882.	1883.	1884.	1885.	1886.	1887.	1888.	1889.*	1890.
Deaths from scarlet fever, } ...	627	573	499	1,306	853	547	646	222	255	574	583	202

Year	1891.	1892.	1893.	1894.	1895.	1896.	1897.	1898.	1899.	1900.	1901.	1901.*
Deaths from scarlet fever, } ...	288	1,008	445	272	264	183	208	201	187	220	155	179

* Year ending December 31st.

TABLE 26.—SHOWING DEATHS IN NEW JERSEY FROM SCARLET FEVER, WITH AGES OF DECEDENTS, FOR YEAR ENDING DECEMBER 31st, 1901.

NUMBER OF DEATHS FROM SCARLET FEVER.	AGE PERIODS.																		
	Under 1 month.	Under 1 year.	1 to 5.	5 to 10.	10 to 15.	15 to 20.	20 to 25.	25 to 30.	30 to 35.	35 to 40.	40 to 45.	45 to 50.	50 to 55.	55 to 60.	60 to 70.	70 to 80.	80 to 90.	Over 90.	Not stated.
	2	8	75	58	16	8	5	5	..	..	..	..	..	..	1	..	..	..	1

Whooping Cough.—This disease caused 157 deaths. An examination of the records shows that outbreaks of whooping cough occur about every third or fourth year, and that at present we are enjoying one of the quiescent periods of the disease. Reference to the tables shows that 97 per cent. of the deaths which were registered from this affection occurred during the first five years of life.

TABLE 27.—SHOWING DEATHS IN NEW JERSEY FROM WHOOPING COUGH FOR TWENTY-THREE YEARS.

Years	1879.	1880.	1881.	1882.	1883.	1884.	1885.	1886.	1887.	1888.	1889.	1890.
Deaths from whooping cough. }	277	180	119	258	189	116	181	274	181	161	278	871
Year	1891.	1892.	1893.	1894.	1895.	1896.	1897.	1898.	1899.	1900.	1901.*	
Deaths from whooping cough. }	299	168	287	828	272	275	821	155	282	806	157	

*Year ending December 31st, 1901.

TABLE 28.—SHOWING DEATHS IN NEW JERSEY FROM WHOOPING COUGH, WITH AGES OF DECEDENTS, FOR YEAR ENDING DECEMBER 31ST, 1901.

NUMBER OF DEATHS FROM WHOOPING COUGH.	AGE PERIODS.																		
	Under 1 month.	Under 1 year.	1 to 5.	5 to 10.	10 to 15.	15 to 20.	20 to 25.	25 to 30.	30 to 35.	35 to 40.	40 to 45.	45 to 50.	50 to 55.	55 to 60.	60 to 70.	70 to 80.	80 to 90.	Over 90.	Not stated.
	691	51	5	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1

Malarial Fevers.—The cause of malaria is the presence in the red blood cells of a parasite which is transmitted from person to person only through the bites of mosquitoes of the genus *Anopheles*, and preventive measures are to be directed against these insects. Experience in exterminating malarial mosquitoes has been accumulating rapidly during the past year, and the life history and habit of the mosquitoes have been set forth in both scientific and popular form in great detail. The deaths registered from malarial affections in New Jersey for the year ending December 31st, 1901, number only fifty, and the decrease in the prevalence and fatality of this disease has been so marked during the past three years (37 per cent.) that it appears probable that the preventive measures which have been employed in various

portions of the State should be credited with an important influence upon the improvement which has occurred. Some modifications have been proposed in the methods which were originally suggested as appropriate for the destruction of mosquitoes, and the use of petroleum as a covering for the breeding places has been found to have a much narrower field of usefulness than it was at first believed to possess. The permanent measures for preventing the development of mosquitoes have been found to consist in the drying up of all breeding pools; to fill them up with earth, or to deepen them and remove all shallow banks, so that the larvæ may be reached by fish. It has been shown that mosquitoes do not usually fly great distances. Dwellings in districts infested with malarial mosquitoes should be screened to prevent the entrance of the insects, and those which are found within the apartments may be destroyed by the smoke of a small quantity of powdered pyrethrum, burned in a metal dish. Persons affected with malaria should be screened to prevent the bites of mosquitoes and thereby prevent the spread of the infection to other human beings. The proper administration of quinine will destroy the parasite, and if no new infection occurs the patient will cease to be a centre for the dissemination of the disease.

The diagnosis of malaria has been much facilitated in obscure cases by the assistance rendered by the microscope, and the New Jersey Laboratory of Hygiene, conducted under the supervision of the State Board of Health, will examine, free of charge, specimens of blood forwarded by physicians.

"Directions for collecting specimens of blood for examination for the malarial parasite.—It is essential to use perfectly clean, thin coverglasses in making these preparations. They may be kept in alcohol and be taken out, one at a time, at the moment they are to be used. They should be wiped dry with a soft linen cloth and be gently warmed over a spirit lamp. The patient's finger or the lobe of the ear may be selected to take the blood from. After puncturing the flesh with a needle, the coverglass, while it is still slightly warm, should be applied to the drop of blood. The coverglass should then be placed quickly on another coverglass, with the drop of blood hanging downward. The blood should immediately spread out between the coverglasses to the very edges on all sides, without the aid of any pressure. As soon as this takes place, and before the blood dries, the coverglasses should be separated, by gently sliding one over the other, and the coverglasses should be allowed to dry separately. A thin layer is indispensable for a successful examination, as there should be but one layer of corpuscles exposed to view. Send both coverglasses to the Laboratory of Hygiene, Trenton, N. J. A report stating the result of the examination will be sent by mail on the morning following the receipt of the specimen, and a report will also be sent by telegraph, at the expense of the parties interested, when a request that this shall be done is forwarded with the specimen."

AN ORDINANCE TO PREVENT THE BREEDING OF MOSQUITOES AND TO THEREBY
PREVENT THE SPREAD OF MALARIAL DISEASES.

1. That every pool, pond, marsh, ditch and receptacle containing stagnant water within the limits of, in which the larvæ of mosquitoes develop, is hereby declared to be a nuisance and a cause of disease, and the owner or owners of every such mosquito-producing pool, pond, marsh, ditch or receptacle, or upon whose lands the same shall be situated, shall, within ninety days after being notified so to do, cause the same to be drained, filled up, removed or otherwise rendered permanently free from the larvæ of mosquitoes.

2. Any person or persons who shall violate any of the provisions of section 1 of this ordinance shall, upon conviction thereof, suffer a penalty of one hundred dollars.

TABLE 29.—SHOWING DEATHS IN NEW JERSEY FROM MALARIAL FEVERS, WITH AGES OF DECEDENTS, FOR YEAR ENDING DECEMBER 31ST, 1901.

NUMBER OF DEATHS FROM MALARIAL FEVER.	AGE PERIODS.																	
	Under 1 month.	Under 1 year.	1 to 5.	5 to 10.	10 to 15.	15 to 20.	20 to 25.	25 to 30.	30 to 35.	35 to 40.	40 to 45.	45 to 50.	50 to 55.	55 to 60.	60 to 70.	70 to 80.	80 to 90.	Over 90.	Total.
	5	6	6	3	3	5	2	2	2	2	2	1	1	5	3	..	50	

TABLE 30.—DEATHS FROM MALARIAL FEVERS IN NEW JERSEY FOR TWENTY-THREE YEARS.

Year.....	1879.	1880.	1881.	1882.	1883.	1884.	1885.	1886.	1887.	1888.	1889.	1890.
Deaths from ma- larial fevers.... }	268	298	431	379	290	280	209	243	217	264	208	195

Year.....	1891.	1892.	1893.	1894.	1895.	1896.	1897.	1898.	1899.	1900.	1901.*	1901.†
Deaths from ma- larial fevers.... }	180	198	148	162	144	119	132	82	96	84	90	50

* Year ending June 30th.

† Year ending December 31st.

Measles.—This disease reappears as an epidemic as often as a new group of susceptible persons is within reach of the infection, and during the intervals between these outbreaks the reported cases diminish greatly in number. No measures thus far employed have served to materially lessen the prevalence of this disease, and in each recurring outbreak it is generally found that one or more unrecognized cases have occurred before the presence of the affection is made known to the sanitary officers. The detection and isolation of the first case can alone be relied upon to with certainty prevent the spread of this affection, and primary cases should be dealt with as energetically as small-pox. One of the duties of medical inspectors of schools should be to carefully instruct teachers concerning the earliest signs of measles, and to warn them to instantly isolate pupils who show any of the symptoms of the disease and detain them until a medical examination can be made.

For the year ending December 31st, 1901, the number of deaths from measles in New Jersey was 77.

TABLE 31.—SHOWING DEATHS IN NEW JERSEY FROM MEASLES FOR TWENTY-THREE YEARS.

Year.....	1879.	1880.	1881.	1882.	1883.	1884.	1885.	1886.	1887.	1888.	1889.	1890.
Deaths from measles..... }	77	87	70	206	181	189	185	88	296	74	118	174

Year.....	1891.	1892.	1893.	1894.	1895.	1896.	1897.	1898.	1899.	1900.	1901.*	1901.†
Deaths from measles..... }	250	197	73	257	95	890	155	192	96	281	60	7

*Year ending June 30th, 1901.

†Year ending December 31st, 1901.

TABLE 32.—SHOWING DEATHS IN NEW JERSEY FROM MEASLES, WITH AGE AT DEATH, FOR YEAR ENDING DECEMBER 31st, 1901.

DEATHS FROM MEASLES.	AGE PERIODS.																		
	Under 1 month.	Under 1 year.	1 to 5.	5 to 10.	10 to 15.	15 to 20.	20 to 25.	25 to 30.	30 to 35.	35 to 40.	40 to 45.	45 to 50.	50 to 55.	55 to 60.	60 to 70.	70 to 80.	80 to 90.	Over 90.	Total.
.....	17	51	4	...	...	...	1	1	...	2	1	...	...	...	...	...	...	...	77

Small-pox.—The mortality from small-pox during the year ending December 31st, 1901, was 142, a larger number of deaths than was caused by this disease during the previous sixteen years. The number of cases reported was 1,139, thus showing a fatality of 12.46 per cent. The long period of immunity from this disease, which preceded the present outbreak, led to general neglect of vaccination, and the penalty has been paid in suffering and death, for small-pox can be prevented or so modified by skillful vaccination and revaccination that no death need ever result from its occurrence. The appearance of the disease in many parts of the State has finally aroused renewed interest in vaccination, and so many persons have now resorted to this preventive measure

that the outlook for an abatement of the present outbreak is promising, and we may reasonably expect that the coming fall and winter (1902-3) will develop fewer cases than the number which occurred last year.

TABLE 33.—SHOWING DEATHS IN NEW JERSEY FROM SMALL-POX FOR TWENTY-THREE YEARS.

Year.....	1879.	1880.	1881.	1882.	1883.	1884.	1885.	1886.	1887.	1888.	1889.	1890.
Deaths from } small-pox .. }		15	254	367	54	7	2	4	5	5	8	.....

Year.....	1891.	1892.	1893.	1894.	1895.	1896.	1897.	1898.	1899.	1900.	1901.*	1901.†
Deaths from } small-pox... }		38	43	11	23	2	.....	.....	.....	5	82	142

* Year ending June 30th, 1901.

† Year ending December 31st, 1901.

TABLE 34.—SHOWING DEATHS IN NEW JERSEY FROM SMALL-POX, WITH AGES OF DECEDENTS, FOR YEAR ENDING DECEMBER 31st, 1901.

NUMBER OF DEATHS FROM SMALL-POX.	AGE PERIODS.																		
	Under 1 month.	Under 1 year.	1 to 5	5 to 10	10 to 15.	15 to 20.	20 to 25.	25 to 30	30 to 35.	35 to 40.	40 to 45.	45 to 50.	50 to 55.	55 to 60.	60 to 70.	70 to 80.	80 to 90.	Over 90.	Total.
	4	12	24	12	4	12	19	16	10	8	10	4	2	1	3	1	...	...	142

Unfortunately, many vaccinations have been performed without subsequent examinations of the arm, and no correct estimate can be made of the degree of protection which has been afforded in these cases. Failure to obtain satisfactory results in primary vaccination is almost invariably due to faults in the production and storage of the virus or to neglect of reasonable care in performing the operation. In Circular 104, issued by the Board of

Health of the State of New Jersey in February, 1902, the following advice concerning vaccination is given:

"The protection afforded by successful vaccination is quite as effective as that produced by a previous attack of small-pox, but there is much uncertainty concerning the duration of this immunity, and therefore vaccination should be repeated at least as often as once in every five years, and it should also be done whenever an outbreak of small-pox occurs in the neighborhood. The operation of vaccination should be conducted with aseptic precautions, and none but glycerinated lymph from a trustworthy producer should be employed. After the arm has been bared the clothing should be securely held away from the site of the proposed abrasion, and the surface should be made clean by thorough washing with warm, sterilized water. After drying with absorbent cotton the skin is scarified in one or more places by the use of a needle which has been rendered sterile by passing it through the flame of an alcohol lamp. One drop of the glycerinated vaccine is then applied and rubbed in with the needle. The clothing should not be allowed to touch the wound until it is dry. In cases where revaccination proves unsuccessful the operation should be repeated at the end of one week. Vaccination has caused undesirable results only in cases when uncleanly methods have been employed in collecting or inserting the lymph, and as at present conducted the operation is free from all objections. In prisons and almshouses every person who is admitted as a permanent inmate should be vaccinated on the day of admission, and every such person should be vaccinated once in each year during his residence in the institution. This regulation should extend to every officer, teacher and employe, as well as to all prisoners and dependents. In boarding-schools a certificate of recent successful vaccination should be required in the case of every pupil admitted. In cheap lodging-houses the local health department should vaccinate and revaccinate all lodgers from time to time. Vaccination certificates for use in schools and other institutions should be written upon blanks which are uniform in size, and the statement should show not only that vaccination has been performed, but that it has been successful or unsuccessful. The certificate should also show the date of last successful vaccination."

Notification of Communicable Diseases.—The following table shows the number of cases of the four chief communicable diseases which were reported under the provisions of chapter 260 of the laws of 1895, during the year ending June 30th, 1902.

TABLE 35.—COMMUNICABLE DISEASES REPORTED FOR EACH QUARTER DURING THE YEAR ENDING JUNE 30TH, 1902.

NAME OF SANITARY DISTRICT.	DIPHTHERIA.				SCARLET FEVER.				TYPHOID FEVER.				SMALL-POX.			
	1.	2.	3.	4.	1.	2.	3.	4.	1.	2.	3.	4.	1.	2.	3.	4.
Allamuchy township.....																2
Alloway township.....																
Andover township.....		40	11	1		1										
Asbury Park city.....			1	1		1	1			1				1		1
Atlantic City.....										1						5
Bayonne city.....	8	17	13	11	12	19	6	20		8	3	8		39	21	8
Belmar borough.....	1			1	1			2	1	3						
Beverly city.....							2								1	
Bordentown city.....		2		4		4			2	15	26	44				1
Bound Brook borough.....	1	1	4													
Bradley Beach borough.....		1	1				2									
Branchburg township.....		1														
Bridgewater township.....	1	1	2	2			1			1						3
Buena Vista township.....								8		2						
Camden city.....	52	74	85	33	6	20	32	48	9	8	15	6	68	101		25
Carlstadt borough.....		1		1											1	
Centre township.....							1	1	1							
Chatham borough.....		4														
Chatham township.....													1	2		
Cliffside Park borough.....																4
Clinton township (E).....									1					1	3	
Clinton township (H).....		1							2							
Collingswood borough.....		1				17	6	2					2	1		7
Cresskill borough.....																10
Deerfield township.....						1				1						
Delaware township (C).....												1			4	1
Delran township.....			1													
Deptford township.....							2									
Dover city.....		2	2	1		2	5	2		3		1				4
Dumont borough.....				3												
Dunellen borough.....	1								5							
Eastampton township.....															1	
East Amwell township.....															4	
East Greenwich township.....											2					
East Orange city.....	9	16	9	7	25	5	3	2	5	14	2	3		5	20	11
East Rutherford borough.....	1															1
Eatontown township.....	9	2	2			4			1					2		
Egg Harbor city.....										1		1				
Egg Harbor township.....																
Elizabeth city.....	62	91	43	53	27	15	17	52	16	8	7	3	1	6	13	24
Fairview borough.....										1					1	
Fanwood borough.....						1										
Fanwood township.....															1	
Florence township.....							1		3							
Franklin township (B).....						1			2							
Freehold town.....		1	7	4		1	2		2							
Garfield borough.....							1									
Glassboro township.....		1							1							
Glen Ridge borough.....		2		3		5		4		3						4
Gloucester City.....															1	
Gloucester township.....	1	1				1			3	1						
Greenwich township (G).....		4	7	3	10	5	35	13	11		1	1				8
Hackensack city.....	6			1												
Hackettstown town.....	1		2					5							1	113
Haddon township.....				1		2			1					2	5	
Haddonfield borough.....																
Hammononton town.....				3							2					
Hampton township.....			1													
Hanover township.....		7	1	1	20				1							
Harmony township.....							3									
Harrington township.....											1					
Harrison town.....	2												18	1		
Hawthorne borough.....																1
Hightstown borough.....																
Hillsborough township.....	2	3					1									
Hoboken city.....				20					54							11
Holly Beach borough.....			1	3		4										
Howell township.....			2													
Independence township.....			1				1									4

TABLE 35.—COMMUNICABLE DISEASES REPORTED FOR EACH QUARTER DURING THE YEAR ENDING JUNE 30TH, 1902—Continued.

NAME OF SANITARY DISTRICT.	DIPHTHERIA.				SCARLET FEVER.				TYPHOID FEVER.				SMALL-POX.			
	1.	2.	3.	4.	1.	2.	3.	4.	1.	2.	3.	4.	1.	2.	3.	4.
Jersey City.....	102	196	187	102	56	165	182	302	16	13	4	5	2	70	284	312
Kearny town.....				5				8							15	9
Lakewood township.....	1	1			3	1	8		2	3		1				
Lambertville city.....		1		1			15	8		2	1	1				
Linden township.....							4									
Little Falls township.....				2			1	2								
Little Ferry borough.....	1			1	1				4	2						4
Lodi borough.....				1	3											
Lodi township.....				1												
Long Branch.....	3	7	6	2	14	2		1	10	1						1
Manasquan borough.....													5			
Mantua township.....	2		5												5	
Matawan borough.....														8		
Medford township.....									1	1						
Metuchen borough.....	1				1				2	1	1	1				1
Midland township.....								2								
Millstone borough.....					1							1				
Millville city.....		1			23	94	32		9	3	1					
Monroe township (G).....			1			1										
Montclair city.....	6	36	8	1	2	2	3	2	2	2	1				2	3
Montgomery township.....											2					
Moorestown borough.....	1	1			26	2		1	1							
Morristown city.....	2	3	2	4	2	5	4		5	6	2					17
Morris township.....				1												
Mount Laurel township.....						1										
Mount Holly borough.....	1	2	1	1	1	1			3							2
Neptune township.....	1			4	1											2
Netcong borough.....																
Newark city.....	171	295	247	248	33	102	137	158	96	106	42	27	74	229	370	462
Newton township.....			7				1									
Northampton township.....				1				1								
North Brunswick township.....																
North Plainfield borough.....	1	8	5	3	1	4	8	8	1		1	1				
Orange city.....	9	21	17	11	1	5	5	4	10	8	4	6		14	46	19
Palmvra township.....	1					16	4	1								4
Park Ridge borough.....																
Passaic city.....	10	24	11	19	2	9	31	18	3	7	3	3		7	6	1
Passaic township.....																
Paterson city.....	19	51	42	32	35	56	79	62	76	36	20	11	1	1	7	22
Pemberton borough.....									1							
Pennsgrove.....							1	4	2		2	2				
Phillipsburg city.....				3												1
Piscataway township.....						1	1	3		1						
Plainfield city.....	6	8	4	2	5	6	22	12	10	11	5	11			5	10
Pleasantville borough.....			1	1		6										
Pompton township.....								14								2
Princeton borough.....								5	18							
Rahway city.....	2				1		5		3	1		1	1	8	22	3
Raritan borough.....		3														
Raritan township (Mid.).....																
Red Bank town.....	1	9	3	1		3			2			2	1	1		2
Riverside borough.....						4										
Riverton borough.....		2				5	12	5	1					2		
Rockaway township.....		2				1										
Roselle Park borough.....				1										1		
Rutherford borough.....				1												
Salem city.....			1				3			1	1					2
Secaucus borough.....																3
Shrewsbury township.....			1											9		1
Somerville town.....	4	16	6	4		1	1		2	1				1		7
South Amboy borough.....			1													
South Brunswick township.....																
South Orange township.....																2
South Orange village.....		1	2			1	3	11		1	1					4
South River borough.....			1					1		2	1					3
Summit city.....	2	6	2	7			8	2				1				4
Trenton city.....	7	11	6	7	7	9	5	21	34	16	12	12		1	15	13
Union township (H).....		2	1	1												
Union township (U).....																3
Upper Saddle River borough.....						5										

TABLE 35.—COMMUNICABLE DISEASES REPORTED FOR EACH QUARTER DURING THE YEAR ENDING JUNE 30TH, 1902—*Continued.*

NAME OF SANITARY DISTRICT.	DIPHTHERIA.				SCARLET FEVER.				TYPHOID FEVER.				SMALL-POX.			
	1.	2.	3.	4.	1.	2.	3.	4.	1.	2.	3.	4.	1.	2.	3.	4.
Vailsburg borough.....	3	16	1										3	1		
Vineland borough.....		2	3		1	18	23	10	2	7	2	2				
Voorhees township.....							4						2	1	1	
Wall township.....						2										
Warren township.....	2					4										
Washington borough.....	6		1		1											
Washington township (Ber.).....					1	1	1								1	
Washington township (G.).....																
Washington township (Mor.).....															1	
Wayne township.....	1															1
Wenonah borough.....					1											
West Deptford township.....					2								1			
West Hoboken township.....	2	32	37		1	17	49		1	1			1	33		
West Orange township.....	1	8	6	1	1	4	2	1	3	2	1		1	13	3	
White House borough.....		3	1	1		1	2		3	1						
Woodbury city.....		1				1			2							
Woodlitch township.....	3	1	1		1	7	14	23		2						
Total cases reported by quarters.....	515	1061	747	640	319	664	872	941	352	325	176	167	106	516	1159	1033
Total cases reported for year.....				2953				2796				1020				2814

Food and Drugs.—The enforcement of the provisions of chapter 85 of the laws of 1901, to prevent the sale of adulterated and unwholesome food and drugs, has been conducted by the State Board of Health since November 1st, 1901. Before beginning the work the inspectors who had previously been employed in this department were tested for fitness and three were replaced by new men. One additional chemist was employed. The four assistant inspectors were distributed as follows: One to have headquarters in Sussex county, one in Essex, one in Mercer and one in Camden. From these points it was found that all parts of the State could be readily reached at a minimum of expense for travel. The examination of milk for the presence of preservatives and for dilution with water was first taken up, and this service has been continuously performed in the more thickly populated districts, milk inspections being a part of the routine duty whenever visits to the various municipalities and townships of the State are made for other investigations relating to food and drugs. The reports filed in the office of the board show the work of each employe, and it is found that the milk of about 1,200 venders is examined each month. When the inspector finds, by the use of the lactometer and by the aid of his skilled

judgment, that there is reason to suspect that any specimen of milk is adulterated or contaminated, he forwards a sample, under seal, by express, to the chemical laboratory of the board, in Trenton. The records of these samples are made on cards, together with a statement of the result of the analysis, and a permanent file is kept of every sample of whatever sort which is examined. Suits are ordered by the board only in cases where evidence is abundant to show that the law has been willfully violated. All fines are paid directly into the State treasury, and the board receives no portion of the moneys paid by persons who are convicted of selling adulterated food and drugs. The attorneys who have been employed by the board in the prosecution of persons charged with violating this act are as follows: Vivian M. Lewis, Paterson; John G. Horner, Camden; John F. Brown, Elizabeth; Reed & Coddington, Plainfield; Charles E. Gummere, Trenton; Carrick & Wortendyke, Jersey City, and F. A. Rex, Camden. The number of suits begun during the year ending November 1st, 1902, for the penalty of violating the Food and Drug act was 166; suits decided in favor of the State, 115; suits lost, 14. Several of the suits which are pending have been appealed, and the final disposition of these cases cannot be reported at present. The amount of penalties collected and paid into the State treasury during the year was \$4,900. The appropriation made by the Legislature for the enforcement of the food law for the fiscal year ending October 31st, 1902, was \$12,000, and therefore the cost to the State for the work done under the provisions of this act during the past year was \$7,100. The sale of adulterated and fraudulent drugs has, judging from the results of recent inspections, been effectually checked, and a revolution has been effected in the business of cut-rate druggists.

An editorial writer in *American Medicine* says:*

"A prominent pharmaceutic publication, *Southern Drug Journal*, May, 1902, takes the eminently proper stand that 'The competent druggist is licensed because he is supposed to know when the drugs he offers are right, and to withhold them from the public when they are wrong.' The practicing pharmacist is obliged to produce evidence of a special education and training in pharmaceutic technic and in the knowledge of drugs. His proficiency having been determined by legally constituted authority, he is granted a license involving rights not enjoyed by others as to traffic in drugs. This restriction to certain men of the

* May 31st, 1902, p. 890.

right to sell certain drugs carries with it the responsibility that they shall guarantee the quality of the drugs sold. The physician relies on the drug to bring about certain physiologic effects, and human life depends upon it having its normal efficiency. Hence the physician looks to the pharmacist for a guarantee that every drug dispensed is possessed of its full potency. The plea often made by the retail pharmacist, that he has relied on the manufacturer or jobber and is ignorant of the actual quality of the drugs dispensed, is invalid and should in no case shield him from legal penalty or public contumely. In cases where he is called to account for the inertness or unaccountable behavior of a given drug, he may, of course, seek satisfaction from the manufacturer whose dupe he has been. The licensed druggist should, however, be held to strict responsibility for the quality of every drug dispensed, and the sale of drugs should be restricted to qualified men, as is already supposed to be the case. Now let the druggist shoulder his responsibility and insist on having full knowledge of every preparation that leaves his hands."

The *Philadelphia Medical Journal*,* speaking editorially on the substitution and adulteration of drugs, says:

"The greed for gain is strongly developed in most modern business methods. Competition, perhaps, is responsible to some extent, as it is likely to reduce profit. This often leads dishonest individuals to substitute and adulterate the products of merchandise which they have for sale, so as to meet competition and still make a fair or even large profit. While this practice is confined to merchandise and materials which are not used as food or as medicine, the practice is simply dishonest, but when the methods of substitution and adulteration are applied to food and drugs the practice in addition becomes dangerous. We are concerned here mainly with the substitution and adulteration of drugs, and it is our intention not only to call attention to the fact that such a practice exists, being carried almost to an alarming extent, but also to suggest a remedy which will partly control and perhaps entirely stop the pernicious practice among pharmacists and manufacturers of drugs and chemicals with which we, as physicians, are mostly concerned. We remember an instance which occurred in Philadelphia in which a celebrated chemist had procured quite a large number of samples of laudanum from local druggists, and found the great majority of them to be below the pharmacopeal strength. Under such circumstances what physician can be certain of the dosage of tinctures and extracts which he orders in his prescriptions?"

The number of specimens of drugs examined during the year was 387, and the number found to be below the standard fixed by the United States Pharmacopea was 240, or 62 per cent. Twenty-nine suits for the penalty for selling adulterated drugs were instituted, and \$850 in fines was paid into the State treasury by persons who were convicted of violating the law.

The food inspectors have, in addition to the duties above referred to, made inspections, as often as their work permitted, of dairy premises, and records of these observations have been made on blanks as follows:

* August 24th, 1901, p. 281.

BOARD OF HEALTH OF THE STATE OF NEW JERSEY.

RECORD OF DAIRY INSPECTION.

-
 [Date.]
 1. (Tenant—Owner)
 [Name of dairyman.]
 2.
 [Post-office, township, county.]
 3.
 [Location of dairy.]

STABLE.

4. Size of stable

 5. Cubic feet per cow

 6. Stable well lighted?

 7. Material, construction and drainage of floor

 8. Method and frequency of cleaning

 9. Was stable clean at time of inspection?
 10. Are side-walls, ceilings and ledges kept free from cobwebs and dust?

 11. Ever lime-washed?

WATER-SUPPLY.

12. Sources of water-supply for watering stock

 13. Sources of water-supply for washing cans, bottles and utensils

 14. Distance of well or spring from stable
 15. Distance from manure pile
 16. Distance from privy vault
 17. Distance from other sources of contamination

 18. Is well apparently liable to contamination?

 19. Was sample of water taken for analysis? 20. Marks

CATTLE.

21. Number of cows..... 22. Breed.....
 23. State of health.....
 24. Ever examined?..... 25. By whom?.....
 26. Date of last examination.....
 27. Were cows in a cleanly condition at time of inspection?.....
 28. Amount, kind and quality of feed used.....
 29. Cows pastured?

MANURE.

30. How and where stored?.....
 31. How frequently removed?.....
 32. Quantity of manure at time of this inspection.....

UTENSILS.

33. How washed and dried?.....
 34. Where are the utensils washed?.....
 35. Any appliance for sterilizing cans, pails and dippers?.....
 36. Bottles—how washed and dried?.....

COLLECTION OF MILK.

37. Quantity of milk produced daily?.....
 38. Are milkers' hands washed before milking?.....
 39. Are clean garments put on?.....
 40. Udders of cows cleaned?..... 41. How?.....
 42. When pail is full of milk what is done with it?.....
 43. Where does the can stand?.....
 44. Is can kept covered?.....
 45. Is milk cooled?..... 46. How?.....
 47. How long after milking?.....
 48. To what temperature?.....
 49. Is milk bottled?.....
 50. How long after cooling?.....
 51. Where is milk bottled?.....
 52. Where is milk stored?.....
 53. How long is milk stored before being shipped?.....
 54. Source of ice-supply.....
 55. If shipped, to whom, and where?.....

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56. Temperature of milk when delivered to customers?.....
57. Quarts sold from cans?.....
58. Quarts sold in bottles?.....
59. Ever run short?.....
60. If so, where is supply obtained?.....
61. How many persons handle the milk?.....
62. All in good health?.....
63. Date of last sickness among persons on dairy premises?.....
64. Diseases?
65. Remarks

RECORD OF INSPECTION OF CREAMERY.

1. 2.
 [Name of place.] [Date of inspection.]
 3.
 [Name of creamery.]
 4.
 [Name and address of superintendent or manager of creamery.]
 5.
 [Name and address of owner or owners.]
 6. Description of buildings and premises.....

 7. How is milk cooled?.....

 8. Temperature of milk when shipped.....
 9. How are cans, bottles and utensils washed?.....

 10. Are cans, bottles and utensils sterilized?.....
 11. Describe sterilizing-chamber.....

 12. Source of ice-supply.....

 13. Source of water-supply.....

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14. Was sample of water taken for analysis?.....
15. Marks.....
16. How many persons handle the milk?.....
17. Are all in good health?.....
18. Date of recent sickness among employes.....
19. Name of disease.....
20. Names of dairymen who deliver milk at creamery (over).....
21. Remarks

.....
Signature of Inspector.

BOARD OF HEALTH OF THE STATE OF NEW JERSEY.

RECORD OF INSPECTION OF MILK DEPOT.

1. 2.
[Date of inspection.] [Name of place.]
3. 4.
[Name of dealer.] [Street and number.]
5. How is the milk stored?.....
6. How are cans, bottles and utensils washed?.....
7. Any appliances for sterilizing cans, bottles and utensils?.....
8. Quantity of milk sold daily.....
9. Is can kept covered?.....
10. How is milk cooled?.....
11. Temperature of milk when sold.....
12. Where is the regular supply of milk obtained?
13. When short, where is supply obtained?.....
14. How many persons handle the milk?.....
15. Are all in good health?.....
16. Date of last sickness on premises.....
17. Name of disease
18. Source of ice-supply
19. Source of water-supply.....
20. Was sample taken for analysis?..... 21. Marks.....
22.

.....
Signature of Inspector.

These inspections have been made under the provisions of section 7 of the act above referred to, and the records have proved of great value. In cases where the water-supply of dairy premises is found to be polluted, and where the animals are stabled or fed in a manner which renders the milk unwholesome, the owners of these premises are notified and advised to improve the unsanitary conditions. Co-operation has been established with the health authorities of the cities of New York and Philadelphia, and in the former city permits to sell milk which is produced in New Jersey are issued only after reports are received from the State Board of Health, showing that the water-supply of the dairy premises in question is wholesome, and that the animals are not diseased nor overcrowded, and that they are not fed on garbage. The locality in and around Secaucus has long been a centre for the production of milk for sale in New York City, and certain premises in this district were known to be unsuited for the business. Under the authority contained in the food law new inspections were made of these places, and the facts observed are set forth in the report of the chief inspector of foods, which appears on subsequent pages of this report. The owners of these premises were advised to make improvements, and in four cases suits were brought for the penalty for keeping cows for the production of milk in a crowded and unhealthy place or condition. In one of these cases the penalty was paid. In two cases trials by jury were held and the verdict was in favor of the stable owners. One case has not yet come to trial.

The action of the New York authorities in refusing to issue permits for the sale of milk until improvements are made greatly strengthens the influences which are being exerted to cause the introduction of more cleanly methods in the care of the animals and in the collection and handling of the milk, and to secure the use of unpolluted water for washing the cans and utensils and for watering the stock. It is not to be expected that these premises will be brought up to a first-class standard by the enforcement of the present law, not even if juries would consent to convictions where the evidence is wholly convincing, for in some instances the location of the stable buildings is on swampy ground, where no efforts will avail to keep the surroundings and

the approaches clean and free from excreta, but we should at least be able to secure 800 cubic feet of air space for each cow, to cause the daily removal of solid excreta and secure the employment of less filthy appliances for cooling the milk. The actions for the enforcement of section 7 of chapter 85 of the laws of 1901 have caused renewal of interest in questions relating to the housing of cattle, the influence of the food and the local water-supply upon their health, and especially concerning the cubic air space of stables which is necessary to the good health of the animals, and also concerning the facilities which should be supplied for the ventilation of stable buildings.

In the seventeenth annual report of the Bureau of Animal Industry (1900), Washington, D. C., in the course of a paper entitled "Market Milk: A Plan for Its Improvement," written by Dr. Raymond A. Pearson, Assistant Chief of Dairy Division, Bureau of Animal Industry, the following appears: "There should be windows in at least two sides of the stable, providing not less than three square feet of unobstructed window-glass for each animal. Each animal should be allowed as many cubic feet of air space as the number of pounds of its live weight. The stalls should be comfortable, at least three feet wide, or three and one-half feet for a large cow, and so long that the animal need not habitually stand with feet in the gutter." In his *Manual of Practical Hygiene*, Dr. E. A. Parks states that cows require 1,000 cubic feet of air space and horses should have from 1,600 to 1,900 cubic feet.

Regulations of the borough of Stockport* (Eng.) require that not less than three square feet of window space shall be allowed for each cow; that louvered openings, or windows falling in at the top, in walls at opposite sides of the buildings, shall be provided for the entrance of air, and that extraction air-shafts shall lead through the roof; that eight hundred cubic feet of free air space should be allowed for each cow; that the floors and side-walls should be made of material which is impervious to water; that no hay-loft should be allowed above the animals; that excreta should not be deposited against the stable and that the water-supply shall be good in quality, abundant in quantity and conveniently placed for use.

* Public Health, October, 1901, p. 26.

The sale of milk which has become contaminated by the emanations or discharges of persons affected with any communicable disease is provided against by the act approved April 21st, 1898. Under authority contained in this act the State Board of Health is able to promptly stop the sale of milk which is produced on premises where any person is affected with one of the dangerous infectious diseases. Following is the form of notice used in these cases:

BOARD OF HEALTH OF THE STATE OF NEW JERSEY.

TRENTON.....

To.....

SIR—In accordance with the provisions of the act approved April 21, 1898, the transportation and sale of milk which has been produced, stored or kept on the premises
.....
is hereby prohibited.

Penalty for violating this order, ONE HUNDRED DOLLARS.

P. L. 1898, P. 428.

1. When the state board of health, or any officer thereof duly authorized in writing by such board to act for or on its behalf, shall have reason to believe that any milk has been contaminated by the emanations, exhalations or discharges of any persons sick with communicable disease, it shall be lawful for the said state board of health, or the officer so authorized to act in the premises, to issue an order in writing, signed by any officer of the state board of health, or by the officer authorized to act in the premises as aforesaid, prohibiting the transportation or sale of any milk suspected to be contaminated as aforesaid, and also prohibiting the transportation or sale of any milk which may be produced, stored, kept or found upon any premises infected by such disease; every person upon whom any such order may be served shall be bound by such prohibition, and the prohibition shall continue until the state board of health, or the officer authorized to act in the premises as aforesaid, shall have had opportunity to examine into the matter of suspected contamination and shall have removed the prohibition by another order in writing, signed by any officer of the state board of health, or by the officer authorized to act in the premises as aforesaid; any person or persons who shall knowingly transport or sell any milk, the sale and transportation of which has been prohibited as aforesaid, shall be liable to a penalty of one hundred dollars, to be recovered by the state board of health in an action upon contract in any court of record within this state, the money so recovered to be applied by the state board of health to any purpose for which it may be legally authorized to expend money.—*Approved April 21, 1898.*

TABLE 36.—SHOWING NUMBER OF SPECIMENS OF WATER CHEMICALLY EXAMINED DURING THE YEAR ENDING OCTOBER 31ST, 1902, THE SOURCES FROM WHICH THEY WERE TAKEN AND THE RESULT OF THE EXAMINATION.

DATE.	NAME OF SANITARY DISTRICT FROM WHICH SPECIMENS WERE RECEIVED.	RESULT OF EXAMINATION. (PARTS PER 100,000).		
		Chlorine.	Free ammonia.	Albuminoid ammonia.
Dec. 2, 1901.....	Morristown.....	0.500	0.005	0.008
" " ".....	Lambertville.....	0.600	0.007	0.010
" " ".....	" " ".....	7.500	0.010	0.025
" " ".....	New Brunswick.....	0.600	0.008	0.010
" 3, ".....	" " ".....	6.900	0.015	0.080
" " ".....	" " ".....	6.300	0.015	0.023
" " ".....	" " ".....	0.500	0.008	0.009
" 12, ".....	West New York.....	0.300	0.002	0.003
" " ".....	" " ".....	10.800	0.007	0.080
Feb. 3, 1902.....	Pailsades Park.....	0.700	0.005	0.003
Mar. 25, ".....	Toms River.....	21.200	0.080	0.200
April 2, ".....	Princeton.....	2.800	0.020	0.040
May 27, ".....	Penns Grove.....	13.800	.....	.....
" " ".....	" " ".....
June 10, ".....	Burlington (3 samples).....	.....	.....	.....
" " ".....	Elizabeth.....	6.500	0.009	0.023
" 11, ".....	Burlington.....	.....	.....	.....
" 17, ".....	Orange.....	1.150	0.009	0.020
Aug. 14, ".....	Lambertville.....	9.150	0.050	0.045
" 18, ".....	East Summit.....	2.750	0.007	0.019
" 26, ".....	Penns Grove.....	3.000	0.009	0.023
" " ".....	Vineland.....	.....	.....	.....
Sept. 11, ".....	Berkley Township.....	1.350	0.007	0.020
" " ".....	Imlaystown.....	2.250	0.008	0.025
" " ".....	Lambertville.....	0.800	0.003	0.010
" " ".....	" " ".....	1.500	0.007	0.013
" " ".....	" " ".....	1.500	0.007	0.013
" " ".....	Basking Ridge.....	1.500	0.008	0.013
" " ".....	" " ".....	1.500	0.008	0.013
" " ".....	" " ".....	1.000	0.005	0.010
" " ".....	Pedricktown.....	2.000	0.003	0.025
" 17, ".....	Woodbridge.....	12.000	.....	.....
" " ".....	" " ".....	6.750	.....	.....
" 23, ".....	Lambertville (2 samples).....	.....	.....	.....
" " ".....	Fanwood.....	.....	.....	.....
" " ".....	" " ".....	9.350	0.020	0.035
" 29, ".....	Secaucus.....	7.500	.....	.....
" " ".....	" " ".....	2.500	0.050	0.050
" " ".....	" " ".....
" " ".....	" " ".....	10.500	.....	.....
" " ".....	" " ".....	23.500	.....	.....
Oct. 2, ".....	Lambertville (2 samples).....	.....	.....	.....
" 8, ".....	" " ".....	2.750	0.009	0.030
" 13, ".....	" " ".....	.....	.....	.....
" 22, ".....	Woodbridge (10 samples).....	.....	.....	.....
" " ".....	Mendham.....	1.550	0.007	0.016
" " ".....	Lambertville.....	1.500	0.006	0.015
" 30, ".....	Secaucus (1 samples).....	.....	.....	.....
" 31, ".....	Rocky Hill.....	1.750	0.006	0.015
" " ".....	" " ".....	1.750	0.006	0.015
" " ".....	" " ".....	0.600	0.004	0.012
" " ".....	" " ".....	3.000	0.008	0.020
" " ".....	" " ".....	2.700	0.006	0.017
" " ".....	" " ".....	0.400	0.004	0.010
" " ".....	Lambertville.....	0.400	0.003	0.013

Total number of samples examined, seventy-three.

Sanitary Inspection Service.—The unusual duties which have been imposed upon local boards of health in many localities in the State during the past year, because of the prevalence of small-pox, have demanded for their creditable accomplishment a high degree of knowledge and skill, but in few districts has the board had the advantage of the service of an experienced and competent officer to advise and direct the employment of the enlightened measures which the progress of the times has rendered available for the prevention of the spread of this disease. In enacting the health laws the Legislature has left wide discretion to the citizens of the various municipalities and townships in the enforcement of the provisions of these statutes, and no limitation has been placed upon the degree of excellence which may be attained in the local sanitary administration, nor, on the other hand, has the minimum of efficiency been fixed, and consequently there is, under present conditions, no check to utter neglect of the precautions which are everywhere recognized as essential to the protection of the public health. The laws give to local health boards authority to take action fully commensurate with the gravity of the public interests which they are appointed to conserve, but there the legislative control ceases, and each community in New Jersey is left to solve its hygienic problems for itself. The period of rapid growth and development in public hygiene in this State began with the enactment of the general health law in 1887, and after fifteen years of observation and opportunity to study the subject, the time has arrived when action should be taken for the adoption of uniform and advanced methods for the application of useful and reasonable measures for preventing the pollution of the air, the soil and the ground-water in built-up districts, for abating nuisances and for preventing the spread of the dangerous communicable diseases. To this end no means will be more effectual than to provide for each local board the service of a competent inspector. A bill to induce suitable persons to prepare themselves for the duties of this office has twice been considered by the Legislature, and after passing the Senate in 1902 by a unanimous vote was lost in the House because of the hostility of one member. This bill emanates from the New Jersey Sanitary Association and it will doubtless be again presented to the Legislature by the committee of that as-

sociation having it in charge. If this measure should become a law its provisions will establish an eligible list of applicants for appointment to the post of local sanitary inspector, and after a stated date no new sanitary inspector will be appointed until he has first obtained a license from the State board of examiners. No officer already holding an appointment will be affected by this bill, and its provisions will not become operative until time has elapsed during which applicants can have opportunity to prepare themselves for the duties of the office.

Following is the form of the bill, as modified by the action of the committee of the New Jersey Sanitary Association appointed at the meeting of the association held in Lakewood, October 24th, 1902:

A FURTHER SUPPLEMENT to the act entitled "An act to establish in this state boards of health and a bureau of vital statistics, and to define their respective powers and duties," approved March thirty-first, one thousand eight hundred and eighty-seven.

BE IT ENACTED by the Senate and General Assembly of the State of New Jersey:

1. To the end that local boards of health may be enabled to secure the services of trained sanitary inspectors, the board of health of the state of New Jersey is hereby authorized and directed to conduct examinations at least semi-annually, at such times and places as, by their by-laws and rules, they may designate, for the purpose of determining the qualifications of applicants for license as sanitary inspectors; every such examination shall be in such subjects and conducted in such a manner as may be satisfactory to the said state board of health, and every applicant, whose examination shall be approved by said board, shall receive from said board a license to act as sanitary inspector for any local board of health in the state.

2. The licenses issued under the provisions of section one of this act shall be classified as follows: Licenses of the first class shall be issued to those applicants who are deemed capable of acting as sanitary inspectors in cities; licenses of the second class shall be issued to applicants who are fitted to act as sanitary inspectors in municipalities except cities and townships; licenses of the third class shall be issued to applicants who are fitted to act as sanitary inspectors in townships.

3. No local board of health shall, on or after the first day of January, one thousand nine hundred and five, appoint any person as sanitary inspector who is not the holder of a sanitary inspector's license, granted as in this act above prescribed; *provided*, that nothing in this act shall be understood to prevent the continuance in office of any person now serving as an appointee of any local board of health; the title "sanitary inspector," as used in this act, shall be understood to apply to such appointees of local boards of health as may be assigned, by the said local boards, to duties relating to the inspection of premises, and the performance of such other service as now is or hereafter may be authorized by the laws or ordinances, so far as they relate to the protection of the public health, other than the duties of clerical assistants in the office of the board.

4. This act shall take effect immediately.

Isolation Hospitals.—The many outbreaks of small-pox which have occurred in New Jersey during the past two years have drawn attention to the great inconvenience, public expense and damage to private interests which may occur when no facilities are provided for the removal of patients suffering with infectious diseases, and expression was given to the general desire of township and municipal authorities for additional authority to provide for the care of infected persons by the presentation of numerous legislative bills, during the session of the Legislature in 1902, designed to meet the various needs of different communities. Chapter 120 of the laws of 1902 is intended to meet the wants of the city of Orange and the adjoining municipalities. It provides for the erection and maintenance of an isolation hospital at the joint cost of the several municipalities which may enter into a contract for the establishment of the institution. A movement has been begun under the authority contained in this act by the city of Orange, the village of South Orange, South Orange township and West Orange township for the selection of a site for a hospital for the care of small-pox, and it is the intention of the parties interested to proceed at once with the erection of the buildings as soon as the site is secured.

Chapter 166 provides that cities may erect isolation hospitals outside of the city boundaries, provided that consent shall first be obtained from the governing body of the locality in which it is proposed to erect the hospital. The city board of health is given full authority to take charge of the hospital when it is thus located. Chapter 161 authorizes cities of the first-class to erect new hospitals. In the haste to provide all needful authority to prevent the spread of small-pox the Legislature was led into the error of enacting Chapter 192, which authorizes the board of trustees or other governing body of any poorhouse to establish and control an isolation hospital for the reception and care of any persons who may be affected with a contagious or infectious disease. Heretofore it has been the practice to place upon local boards of health the responsibility for the removal of infected persons, and to such boards has been given authority to enforce ordinances requiring such removal, and the care of such persons when held in quarantine, either in private dwellings or in hospitals, has been wholly entrusted to such boards. The act of April 8th,

1902, does not repeal the statutes under which boards of health have been acting, but it gives to managers of poorhouses duties and authority which can only be exercised satisfactorily by the sanitary officers of the district. The State is, as a whole, dependent upon the skill and training of the local health officers in each district for the prevention of the spread of the dangerous communicable diseases, and good public policy demands that we should continue to limit the custody of infected persons to boards of health which have been created expressly for this service, and which have been gaining experience during the twenty-two years since they were made guardians of the public health. Ample powers had already been given to municipal and township authorities for the erection of isolation hospitals, and no good reason existed for extending to new and irregularly organized bodies authority, not only to establish isolation hospitals, but to transport infected persons through the territory of any municipality or township and to appoint and employ agents and servants to care for the patients. These are services which should not be rendered by any but those who have been instructed in the art of public hygiene, and it is far wiser to assign duties of this nature to boards of health than to arouse antagonism by placing the work in the hands of the managers of poorhouses. It is to be hoped this act will be repealed at the coming session of the Legislature, or so amended that the objectionable features will be eliminated. The methods of construction of isolation hospitals have recently received much attention on the part of local officers in localities where the erection of hospital buildings is under consideration, and while the arrangement of the structures must necessarily vary to meet the requirements of different sites and differences in the numbers of the population, yet the general principles to be observed are agreed upon. The ward space for each patient should not be less than 2,000 cubic feet; the floors and sidewalls should have smooth surfaces, impervious to water; the provision for the separation of patients affected with different maladies should be adequate, and the barriers should be impassable; facilities should be furnished for the sterilization of infected garments, sheets, blankets, &c., for the safe disposal of sewage, garbage and rubbish, for the convenient supply of food,

and fuel, and for the comfort of nurses and other attendants and servants.

Plumbing and Gas Fitting.—The views of sanitarians have undergone considerable modification since the enactment of the law (February 22d, 1888) authorizing boards of health to regulate and control the plumbing, drainage and ventilation of buildings, and there are many who favor the transfer of the supervision of this work to the building department in cities, where such a department exists, for no facts have been produced to warrant the opinion, formerly held, that sewer-gas produces certain specific diseases. On the other hand, there is much evidence to show that sewer air is comparatively free from bacteria, and that little risk to health is involved in its inhalation. Undetected vitiation of the air of dwellings from leaky gas-pipes has, on the contrary, been shown to be an active source of danger to health. Experiments conducted in one of the municipalities of the State have shown that the gas-pipes of dwellings are rarely tight enough to prevent the escape of gas, even when they are first erected, and after a few months of exposure to heat and cold the joints are opened more or less by the cracking of the sealing wax which is used to cover sand holes and defective fittings. Following is a copy of a bill which has been proposed for the improvement of the piping of houses for gas:

SUPPLEMENT to "An act to establish in this state boards of health and a bureau of vital statistics, and to define their respective powers and duties," approved March thirty-first, one thousand eight hundred and eighty-seven.

BE IT ENACTED by the Senate and General Assembly of the State of New Jersey:

1. That local boards of health, except township boards, shall, in addition to the powers enumerated in the act to which this is a supplement, have power to pass, alter and amend ordinances, and make rules and regulations within their respective jurisdictions to regulate and control the gas piping and gas fitting of all buildings, public and private.

2. This act shall take effect immediately.

Cemeteries.—The following table shows the names and locations of the cemeteries the enlargement or establishment of which has been brought to the attention of the State Board of Health during the year ending October 31st, 1902, together with the disposition of cases where appeal was taken from the action of the local authorities:

NAME OF CEMETERY.	Where located.	Date of hearing.	Disposition of case.
Fairview.....	Fairview.....	April 15, 1902	Application for reversal of local authorities in refusing to grant consent for establishment of cemetery denied. Map filed. “ “
Spruce Run.....	Lebanon township...	.....
Lower Valley Union...	Hunterdon county...	.....	Action of local authorities in refusing to consent to establishment of cemetery was sustained.
St. Mary's Catholic Slavonian Church of the Assumption	Hasbrouck Heights	Oct. 3, 1902	

Inspection of Streams.—The collection of information relating to the pollution of the streams of the State which are used for supplying water for potable purposes in cities and towns has been continued during the year, and seventy sources of contamination have been removed. In order to secure compliance with the requirements of the act (Chapter 41 of the laws of 1899) only three prosecutions were found necessary, the parties responsible for the pollution being generally willing to provide new methods for the disposal of waste fluids upon notice to discontinue to discharge contaminating materials into the waters of rivers and their tributaries where these waters were used for drinking purposes. Action in the case of several factories along the course of the Rahway river, from which large quantities of washings from paper stock flows into the river, has been delayed awaiting a decision of the Court of Appeals in the Diamond Mills case (see Annual Report of New Jersey State Board of Health for 1901, page 117). As the questions involved in all of these cases are similar, and as the constitutionality of the act under which the operations of the State Board of Health are conducted, in their procedures for preventing the pollution of streams, is attacked, the Board has been advised by counsel that further steps require the purification of the waste fluids from these establishments before it is allowed to enter the stream should not be commenced until a decision in the Diamond Mill case is announced.* Further on in this re-

* Final decision in this case was filed November 10th, 1902, affirming the decree of the Court of Chancery enjoining the Diamond Paper Mills Company from polluting the Rahway river.

port is published a detailed statement showing the work accomplished in the inspection of streams during the year, and also showing the methods employed in recording the facts which are observed.

Sanitary Administration in New Jersey.—The system provided by the laws of New Jersey for the protection of the public health has now been in operation twenty-two years, and no serious defect has been found in the general methods which the various acts prescribe. The first statute providing for the establishment of local boards of health in New Jersey was passed by the Legislature in 1880. This law was revised and re-enacted in 1886, and in 1887 it was again enacted, this time leaving out an unconstitutional provision whereby one county of the State was excluded from its requirements. This act now stands firmly entrenched and supported by numerous decisions of the courts, and its comprehensive scope has thus far been sufficient for all of the needs of local boards of health in conducting operations for the protection of the public health. Reference to section 13 of the act of 1887 shows that in New Jersey the authority given by the Legislature to boards of health is limited to measures which are clearly defined in the act, or which can be shown to be necessary for the prevention of disease or the promotion of health. In an opinion dated August 1st, 1898 (page 41, Annual Report of Board of Health of the State of New Jersey, 1898), Mr. Charles L. Corbin, referring to the limitations of the health laws, in their relation to the abatement of nuisances, says: “ * * it is necessary to establish * * * not merely that there is a nuisance * * * but that the nuisance is to a substantial extent injurious to the public health.” The practice of the courts, based upon the common law, and upon statutes long recognized as equitable and adequate, provides remedies for public nuisances which interfere with the comfort of citizens, but which are not necessarily injurious to health. Writing upon this subject, Judge E. S. Atwater (circular 96 of Board of Health of the State of New Jersey, page 111) says:

“The right of the public to have a pure atmosphere and to have its water-supply kept free from contaminating and unwholesome substances is asserted and protected by the law. Quotations from some of the authorities on these subjects are submitted: “The corruption of the atmosphere by the exercise of any trade, or by any use of property that impregnates it with noisome stenches,

has ever been regarded as among the worst class of nuisances, and the books are full of cases in which any use of property producing these results has been regarded as noxious and a nuisance, whether arising from the exercise of a trade or business, or from the ordinary or even necessary uses of property. As has been before observed, the right to have the air float over one's premises, free from all unnatural or artificial impurities, is a right as absolute as the right to the soil itself.—Wood on Nuisances, § 494. From the same volume, § 487, we quote: 'The collection of water in artificial ponds or trenches, or the setting back of water by means of dams or other artificial devices, whereby the water becomes stagnant and emits unpleasant odors, or unwholesome or injurious gases, is a great nuisance, and equally as actionable or indictable as are furnaces for the smelting of lead, copper or other substances that send out destructive or injurious vapors.' 'A mill-dam becomes a nuisance when it obstructs the water to such an extent that it overflows its banks and the surrounding country and stagnates and becomes dead in pools, whereby the air along the highways and around the dwellings is infected with noxious and unwholesome vapors, and the health of the adjoining country is sensibly impaired. Nor is it a defence to such a nuisance to say that the dam was built long before any one lived on the margin of the stream, or there were any settlements about it.'—Archbold's *Crim. Practice and Pleadings*, vol. II., p. 1762. In the case of *Holsman v. Boiling Springs Bleaching Co.*, reported in 1 McCarter, p. 342, Chancellor Green said: 'Every owner of land, through which a stream of water flows, is entitled to the use and enjoyment of the water, and to have the same flow in its natural and accustomed course without obstruction, diversion or corruption. The right extends to the *quality* as well as to the quantities of the water. If, therefore, an adjoining proprietor corrupts the water, an action upon the case lies for the injury.' 'The right of the riparian owner,' says Chancellor Kent, 'to the use and enjoyment of a stream of water in its natural state is as sacred as the right to the soil itself.' 2 Johns. Chancery Reports 166. A disturbance or deprivation of that right is an irreparable injury, for which an injunction will issue. If the deprivation of the use of the water by diversion constitutes such an irreparable injury as will be restrained by injunction, the deprivation of its use by so corrupting it as to render it unfit for use is an equally irreparable injury, entitling the party injured to the like preventive remedy.' 'Where the nuisance operates to destroy or diminish the comfort of a dwelling, an action at law furnishes no adequate remedy, and the party injured is entitled to the remedy by injunction.' 'It is clearly the duty of riparian proprietors upon a water-course to refrain from erecting upon its banks any works which render the water unwholesome or offensive.'—Angell on Water Courses, § 136. 'The right of a riparian owner to have the water of a stream come to him in its natural purity is as well recognized as the right to have it flow to his land in its usual flow and volume. But in reference to this, as with the air, it is not every interference that imparts impurities thereto that is actionable, but only such as imparts to the water such impurities as substantially impair its value for the ordinary purposes of life, and render it measurably unfit for domestic purposes, or such as cause unwholesome or offensive vapors or odors to arise from the water, and thus impair the comfortable or beneficial enjoyment of property in its vicinity, or such as, while producing no actually sensible effect upon the water, are yet of a character calculated to disgust the senses, such as the deposit of the carcasses of dead animals therein, or the erection of privies over a stream, or any other use calculated to produce nausea or disgust in those using the water for the ordinary purposes of life, or such as impair its value for manufacturing purposes.' The authorities are ample to show that no right is acquired to maintain a public nuisance from the fact that it has been in existence a long time.

'No length of time legitimates a nuisance.'—Wharton's Criminal Law, § 1415. 'There is no such thing as a prescriptive right or any other right to maintain a public nuisance. Thus, if the damming of water, though in accordance with a prescriptive right, creates or causes such annoyance as seriously to interfere with the comfortable enjoyment of property, or has a direct tendency to create sickness in the immediate neighborhood, it constitutes a nuisance to which a claim for prescription is no defence.'—Wait's Action and Defences, vol. IV., p. 782. 'There can be no prescription for a public nuisance of any kind or description.'—Wood on Nuisances, p. 743. 'Neither is it a defence in any measure that the business is a useful one, that it is necessary, or that in its products and operations it is a public benefit and contributes largely to the enhancement of the wealth, prosperity and commercial importance of the community; for if it is really a nuisance, or operates as such upon the public, no measure of necessity, usefulness or public benefit will protect it from the unflinching condemnation of the law.'—Wood on Nuisances, p. 28. It is to be remarked, however, that courts will not needlessly interfere with a business of the kind referred to in the last quotation. A case of nuisance must be clearly made out, and even then, before finally restraining the carrying on of a business, a court of equity will give the parties concerned an opportunity to see whether some other method cannot be devised by which the business can be so carried on as not to be a nuisance. This principle was applied in this State in the case of *Cleveland v. Citizens' Gas Light Co.*, reported in 5 C. E. Green, p. 201, &c. That there are other nuisances in the immediate vicinity of the nuisance complained of is not in general a defence to proceedings had for its removal. In *Wood on Nuisances*, § 491, it is said: 'The mere fact that other nuisances exist in the locality that produce similar results is no defence if the nuisance complained of adds to the nuisance already existing to such an extent that the injury complained of is measurably traceable thereto. It is not necessary that all the injury should be the result of the nuisance sought to be charged; if it is of such a character, and produces such results that, standing alone, it would be a nuisance to the plaintiff, the fact that it is the *principal* though not the sole agent producing the injury, is sufficient, at least, as evidence of the plaintiff's right.' In the case of *Meigs v. Lister*, reported in 8 C. E. Green, p. 205, Chancellor Zabriskie said: 'The position taken by counsel, that the complainants were entitled to no relief from this nuisance, because the locality was surrounded by other nuisances and dedicated to such purposes, has no foundation in law or in fact. If there were several nuisances of the like nature surrounding them, they must seek relief from each separately; they cannot be joined in one suit, nor need the suit proceed *pari passu*.'

'The legal remedies for nuisances are concisely stated in *Wood on Nuisances*, § 815, as follows: 'The remedies for nuisances may be divided into three classes: preventive, compensatory and by punishment. The preventive remedy is secured by two methods: by the intervention of a court of equity to prevent the erection or use of the thing complained of, and by the act of the party injured by an abatement of the nuisance with a "strong hand," of his own motion. The compensatory remedy is by an action at law for a recovery of damages resulting from the nuisance, and the remedy by punishment is that sought on behalf of the public by indictment.' The following is an extract from the opinion of Vice Chancellor Dodd, of this State, in the case of *Manhattan Manufacturing and Fertilizing Company v. Van Keuren*, reported in 8 C. E. Green, p. 255, in regard to the abatement of nuisances: 'At common law it was always the right of a citizen, without official authority, to abate a public nuisance, and without waiting to have it adjudged such by a legal tribunal. His right to do so depended upon the fact of its being a nuisance. If he assumed to act upon

his own adjudication that it was, and such adjudication was afterwards shown to be wrong, he was liable, as a wrong-doer, for his error, and appropriate damages could be recovered against him. This common law right still exists in full force. Any citizen, acting either as an individual or as a public official under the orders of local or municipal authorities, whether such orders be or be not in pursuance of special legislation or chartered provisions, may abate what the common law deemed a public nuisance. In abating it property may be destroyed and the owner deprived of it without trial, without notice and without compensation. Such destruction for the public safety or health is not a taking of private property for public use without compensation or due process of law, in the sense of the constitution. It is simply the prevention of its noxious and unlawful use, and depends upon the principles that every man must so use his property as not to injure his neighbor, and that the safety of the public is the paramount law. These principles are legal maxims or axioms essential to the existence of regulated society. Written constitutions presuppose them, are subordinate to them and cannot set them aside. They underlie and justify what is termed the *police power* of the State. By virtue of that power numerous and onerous restrictions and burdens are imposed upon persons and property, which, for other purposes or on other grounds, would be prohibited by the constitutional limitations sought to be applied in this suit."

In a foot-note on page 261 of Revised Statutes the following appears:

"(c) The common law courts have an undisputed jurisdiction over public nuisances by indictment, and a court of equity ought not ordinarily to interfere, *Attorney-General v. New Jersey R. R. Co.*, 2 Gr. Ch. 136. An indictment for a nuisance will lie against a turnpike company for not repairing their road, *State v. New Jersey Turnpike Co.*, 1 Harr. 222. Whether a turnpike gate within the limits of dense city population is a nuisance, see *State v. Passaic Turnpike Co.*, 3 Dutch. 217. A railroad company is indictable for a nuisance in erecting a building and leaving their cars in a public highway, *State v. Morris and Essex Co.*, 3 Zab. 360; and whether such obstruction is a nuisance, is a question for the jury, *State v. Morris and Essex Co.*, 1 Dutch. 437. So, obstructing the Hudson river by placing vessels and wrecks on the shore between the high and low water lines, *State v. Babcock*, 1 Vr. 29. Any resort of thieves, &c., is an indictable nuisance, *State v. Williams*, 1 Vr. 102. When the *landlord* of such a place is liable. *Ibid.* For what nuisances *tenant* is liable, *Durant v. Palmer*, 5 Dutch. 544. A ten-pin alley kept for public use in a village, although connected with a lager beer saloon, is not a nuisance, *State v. Hall*, 3 Vr. 158. Oysters planted in navigable waters are not a nuisance, unless they interfere with the public rights of fishing and navigation, *State v. Taylor*, 3 Dutch, 117. An indictment for a common nuisance will not lie, unless the facts charged be of such a nature as to justify that conclusion legally as well as a matter of fact, *Morris and Essex Co. v. The State*, 7 Vr. 553."

From the foregoing opinions it will be seen (1) that in New Jersey it has been the design of the Legislature that health boards shall confine their operations to the renewal or improvement of conditions which affect the public health unfavorably, and that (2) for

nuisances which cannot be shown to be injurious to health other remedies than those provided for in health laws are available. With these limitations clearly before us, there should be no error in the procedures which are had for the enforcement of the act of 1887 and the supplements and amendments which have been added from time to time.

Members of local boards of health are in effect jurymen selected under the law to sit in judgment concerning conditions suspected to be prejudicial to the public health, and they are enabled to collect the facts necessary to form the basis of correct opinions relating to the hygienic condition of the district under their supervision only when they have the services of trained, skillful and sufficiently compensated employees who are competent to distinguish dangerous and unhealthful conditions, and those which are forbidden by the health laws from those nuisances and sources of discomfort, annoyance and damage which the Legislature has decreed shall, in New Jersey, be dealt otherwise than under the health laws. Such sanitary employees should also be depended upon to point out to the board the direction in which the remedy can, in each case, be most effectively applied. Here we are met by the urgent need of making provision for the instruction of persons who are fitted by their mental attainments and good character to take up the study of municipal sanitary administration. This subject has already been brought to the attention of the Governor and Legislature in previous annual reports of this Board.

Mr. C. M. Driggs, Secretary pro tem. of the Board of Health of the borough of Fairview, Bergen county, relates an extraordinary experience through which the local board has passed, as follows: He says that on January 8th, 1901, J. and F. DeBruen complained to the health board of Fairview that because of the improper grading of Anderson avenue, fronting their property, storm water settled in certain places and overflowed the sidewalk. The board of health referred this complaint to the mayor and council. On September 8d, J. and F. DeBruen and Mr. Cameron appeared before the board of health and presented a complaint signed by themselves and others in relation to stagnant water in a vacant lot on Anderson avenue, stating that this water collected there because

certain drain-pipes, laid by a party named Henry Brunn, discharged into said lot. This complaint was also referred to the mayor and council, but upon inspection it was found that the complainants were in error, and the mayor and council were advised that, in the judgment of the health board, the proper remedy would be to fill the low lots and bring them up to the grade of the street. After a subsequent inspection (June 3d, 1902), the board advised that an engineer be employed to ascertain the levels of the lands in question with a view to drainage of the low-lying lots.

On complaint of Mr. A. DeBruen, June 6th, 1902, a warrant was issued by Thomas H. Cummings, a justice of the peace, for failure to abate the nuisances alleged to exist in the complaints above referred to, and the members of the board of health were placed under arrest. They were each held under \$300 bail for appearance before the grand jury, but no indictments were found against them.

Clearly the course pursued by the justice in this case was wholly at variance with the purpose of the Legislature in the enactment of the health laws, and altogether without precedent in the State. In the exercise of their duties members of health boards are permitted by the laws to make ordinances, rules and regulations for the protection of the public health, and to their discretion is left the judgment as to what constitutes a nuisance prejudicial to the public health. Every local board of health has been empowered to take independent action concerning these questions, and in fact no two boards of health in the State view their duties from the same standpoint, and action is consequently quite different in different districts, even when the nuisances to be dealt with are almost exactly alike. The grand jury in this case had a better understanding of the relations of the health boards to the enforcement of the laws than was possessed by the justice who so indiscreetly proposed to substitute his opinion on public hygiene for those of the officers expressly appointed to deal with these affairs.

Contagious Diseases of Animals.—No serious outbreak of preventable diseases among animals has occurred during the past year. Glanders has continued to appear in Essex and Hudson counties.

From information received the State Board of Health is of opinion that glanders has been spread in part through the agency of public watering troughs, but the authority thus far given by the Legislature empowering the State Board of Health to take action for the closing up of these conveniences is not very clearly stated in the law, and the Board has been obliged to limit its service in this direction to urgent requests, addressed to the municipal authorities and to local boards of health, pointing out the advisability of discontinuing the use of all public basins and troughs for watering horses, and calling attention to the advantage which will attend the furnishing, in place of these receptacles, faucets connected with the public water-supply, located on the site of or near to the troughs which have heretofore been in use. From these faucets each driver can draw water into a pail carried in his own vehicle. A detailed report of all cases of contagious diseases of animals which occurred during the year appears further on in this report.

The Medical Inspection of Schools is receiving increasing attention in many localities in the State, the value of the service having been demonstrated beyond all question, and where the medical inspector has been discreet in the performance of his duties and has proved himself capable of conducting the work of his department without friction, school officers and members of boards of education have found his assistance most welcome. The relief which has been afforded to superintendents and principals in determining upon the course to be pursued in dealing with suspected cases of illness, has been accepted with evidences of appreciation of the advantages to the public school system which the innovation has introduced, and a load of responsibility has been removed from the shoulders of these officers which they were previously obliged to carry unaided, notwithstanding the fact that persons who are untrained in medicine cannot reasonably be expected to possess the qualifications which are requisite to the formation of a correct judgment on questions of diagnosis, and concerning the symptoms indicating the onset of the dangerous communicable diseases. The movement in New Jersey for the prevention of the spread of disease through the schools, and for the protection of pupils by the early detection of illness, promises to make substantial progress during the coming year, and if no

other benefits result except the early recognition of every case of incipient phthisis, the money expended for salaries will be repaid a hundred fold.

The medical inspector should instruct teachers concerning the early signs of phthisis, and with their aid he should be able to place under his own observations every incipient case of this disease. Exclusion of suspected cases of phthisis is justifiable, both on account of the public health and for the benefit of the afflicted pupil, for every child who exhibits the signs of this affection will be better off out of school, even if his decline in health should finally prove to be due to other causes than tuberculosis.

State Laboratory of Hygiene.—The alterations made in the state house, preparatory to the erection of a new senate chamber, required the removal of the chemical laboratory conducted in connection with the food and drugs department, and the bacteriological laboratory, which has heretofore been located in Princeton, was also removed at the same time in order to secure the advantages of the better postal facilities provided in the city of Trenton and to afford more convenient oversight of the work. The two laboratories are now established at No. 147 East State street, Trenton, and the equipment of the laboratory apartments affords every necessary facility for the examinations required by the laws. Further on in this report will be presented records of the work which has been performed in the laboratory during the past year.

Collection of Dog Licenses.—Among the acts of the Legislature of the session of 1902 is Chapter 22, which provides that local boards of health shall, in certain municipalities, collect fees for the licensing of dogs, register each dog licensed and issue a license tag therefor. One-half of the fees so collected is to be applied to the uses of the local board of health, and the local district Society for the Prevention of Cruelty to Animals is to receive the other half. Section 3 of this act provides for the impounding of unlicensed dogs by the society referred to, and provision is made for the collection of an additional dollar by the society from any owner who claims an unlicensed dog within three days after the animal has been caught.

To make the local board of health an instrument for the col-

lection of fees from dog licenses, and to permit the board to participate in a division of the spoils obtained from this source, and to thus act as the servant of the Society for the Prevention of Cruelty to Animals, is a violation of all traditions, and places local boards of health in a most unseemly relation to the dignified and highly important duties which have heretofore been regarded as suitable and appropriate to a department which is established solely for the protection of the public health.

If it could be shown that the licensing of dogs will in any way tend to lessen the danger from rabies, there would then be some ground to justify the participation of the health boards in this business, but it appears that the sole object in view is to obtain revenue, and health boards are to be made collection bureaus for gathering in a tax on dogs. The health boards are to do the work and the district Society for the Prevention of Cruelty to Animals is to get half of the proceeds. The repeal of this act is respectfully recommended.

Very respectfully,

HENRY MITCHELL,
Secretary.

October 31st, 1902.

Summary of Reports from Local Boards of Health.

Following is the form of blank which was mailed to the secretary of each local board of health in New Jersey September 1st, 1902:

[This blank should be filled out as fully as possible by the secretary or clerk of the local board of health, and upon its receipt at the office of the State Board of Health, not later than October 15th, 1902, with inquiries duly answered, a certificate will be returned which will entitle the proper person to receive from the local disbursing officer the sum of \$2.]

[Reports from local boards of health are not limited to replies to the inquiries contained in this blank, and it is very desirable that a much more extended statement of their doings, and of local conditions affecting the public health, than is referred to herein shall be printed. Use black ink and write plainly. Be especially careful to write proper names distinctly.]

ANNUAL REPORT

OF THE

LOCAL BOARD OF HEALTH OF

1.
[Name of sanitary district.]
County of.....for the year ending October 1st, 1902.

2. Names and addresses of the officers and members:

NAMES.	ADDRESSES.
..... President.
..... Member.
..... "
..... "
..... "
..... Secretary.
..... { Registrar of
..... Vital Statistics.
..... Inspector.
.....
.....
.....

3. Municipal statistics:

(a) Date when founded.....	(i) Altitude above sea level.....
(b) Date when incorporated.....	(j) Area in square miles.....
(c) Population in 1860.....	(k) Number of streets.....
(d) Population in 1880.....	(l) Number of miles of improved streets
(e) Population in 1900.....	(m) Number of fire hydrants.....
(f) Population in 1902 (estimated)	(n) Number of miles of electric railways
(g) Assessed valuation in 1901.....	(o) Number of electric street lights
Real estate.....	
Personal Property.....	
(h) Total tax rate for year 1901....	

4. Births and Deaths:

Has any physician or midwife failed to report any birth? If so send name and address on separate sheet, and also send names of parents of child.....

5. Communicable diseases:

NAMES OF DISEASES.	Number of cases reported.	Number of deaths.	Number of houses infected.
Diphtheria
Membranous Croup.....
Scarlet Fever.....
Typhoid Fever ¹
Small-pox ²

¹ If typhoid fever has occurred please state the origin of each case.

² All cases of varioloid should be reported as small-pox.

6. Give names of any physicians who refuse or neglect to promptly report communicable diseases:**7. What officer of your board receives, records and transmits to Trenton reports of communicable diseases?****8. Isolation hospital:**

- (a) Is your board provided with satisfactory facilities for isolating cases of infectious diseases?.....
- (b) Where is hospital located?.....

9. Water-supply:

- (a) Have mains been extended during the year ending October 1st, 1902?.....
- (b) Number of dwellings connected with water mains during year.
- (c) Total number of dwellings connected.....
- (d) Sources of pollution.....

10. Sewerage:

- (a) Number of premises connected with sewers during year ending October 1st, 1902.....
- (b) Have any extensions of sewer mains been made?.....

11. Garbage:

- (a) How is it stored, collected, transported and disposed of?
- (b) Is garbage collected under contract?.....
- (c) Frequency of removal.....
- (d) Number of vehicles, horses and men employed in garbage service
- (e) Cost of garbage collection, removal and disposal for fiscal year ending.....
- (f) Are garbage, rubbish and ashes removed under supervision of the board of health?.....
- (g) Total number of cubic yards of garbage removed annually.
- (h) Are the vehicles used for removing garbage satisfactory?.....
- (i) Has any nuisance been caused by the dumping of garbage or other refuse matter?.....

12. Rubbish and Ashes:

- Disposal of rubbish and ashes.....

13. Excreta:

- (a) Is control exercised by the board of health over the location and construction of privy vaults and cesspools?.....
- (b) Are any abandoned wells used for cesspools?.....
- (c) Number of privy vaults in use.....
- (d) Number of cesspools in use.....
- (e) Disposal of night soil.....

14. Nuisances:

- (a) Number of complaints investigated during the year ending October 1st, 1902.....
- (b) Number of nuisances abated.....
- (c) Any nuisances caused by offensive trades?.....

15. Illuminating oil:

- Have any explosions of kerosene lamps occurred? (In future please report to the State Board of Health every such occurrence, and if possible forward for examination a sample of the oil used.).....

16. Dairies and milk depots:

- Is there a regular periodical inspection of dairy premises and milk depots in your sanitary district?.....
- Are records kept of such inspections, and do the records show (a) the character and source of the water-supply; (b) the methods employed in washing cans and utensils, and in the (c) collection, (d) cooling, (e) transportation and (f) delivery of the milk?.....

17. Diseases of animals:

- Please report any cases of contagious diseases of animals which occurred in your district during the year.....

18. Diseased meat:

During the past few years many carcasses of diseased meat which were shipped from New Jersey to New York City have been seized there and sent to the offal dock, and the disreputable and unlawful practice of sending diseased meat to market is still prevailing. Does it exist in your district? Chapter 85 of the laws of 1901 provides that a penalty of \$50 shall be imposed upon every person who sells diseased meat.....

19. Schools:

- (a) Has medical inspection of the public schools of your district been established yet?.....
- (b) What is the number of unvaccinated school children in your district?

20. House-to-House inspection:

- (a) Does your board cause house-to-house inspections to be made at stated intervals?.....
- (b) Is any record kept of sanitary inspections?.....

21. New constructions:

Has any hospital, disinfecting plant, garbage furnace, or other sanitary institution or apparatus been established?.....

22. State bacteriological laboratory:

- (a) Is there a sufficient number of repositories in your district for mailing-cases for sending specimens of diseased tissue for diagnosis to the state bacteriological laboratory?.....
- (b) If supply stations are desired, please suggest one or more centrally located drug stores where they may be established

23. Cemeteries:

- (a) Do cemetery keepers make records of all interments?.....
- (b) Are any burials made without permits?.....

24. Suits at law:

Has any law suit been brought by your board for the enforcement of the health laws or ordinances? If so, please report so much of the case or cases as may be useful for the guidance of other boards.....

25. Has gratuitous vaccination been offered to the public by your board during the past year?**26. Meetings:**

How many meetings have been held by the board during the year?

Signature, official title and
P. O. address of the person
filling out this report. {

To obtain the \$2 which the law provides may be paid for the preparation of this report, this blank must be forwarded not later than OCTOBER 15th, 1902.

BOARD OF HEALTH OF THE STATE OF NEW JERSEY.

TRENTON, September 1st, 1902.

To the Local Boards of Health:

Section thirty-seven of the act approved March 31st, 1887, amended by the act approved March 2d, 1901, reads as follows:

37. That the local board of health of every township, city, borough, town and other municipality shall, on or before the first day of October in each year, in addition to other reports required, prepare an annual report of the condition of the public health within the limits of its jurisdiction, stating therein any special cause for the deterioration of health or of hazard thereto, and shall therein answer any inquiries which may have been addressed to such local board by the state board of health, and such local board shall forward a copy of such report to the state board of health on or before the fifteenth day of October in each year; the clerical duty required in the preparation of such annual report shall be done by the secretary or clerk of the local board, who, upon receiving a certificate from the secretary of the state board of health that such annual report has been duly prepared and received by said state board on or before the said fifteenth day of October, shall be entitled to receive from the proper disbursing officer of the township, city, borough, town or other municipality for which the report is made the sum of two dollars for such clerical service.

It will be observed that the legislature has provided that in cases where the local secretary or clerk reports promptly and satisfactorily, he shall be entitled to receive \$2 from the treasurer of the municipality or township.

Local boards are requested to include in their reports replies to the accompanying inquiries, in addition to such other facts and statements as they may desire to present.

The State Board of Health desires to publish a comprehensive abstract of the reports of local boards, to show what degree of progress each sanitary district is making in the promotion and protection of the public health, and to this end local boards are requested to make a clear statement of the needs and sanitary defects of their districts, as well as to record the local hygienic advancement and give an account of official duties performed.

ATLANTIC COUNTY.

Town of Absecon.—MEMBERS AND OFFICERS—Daniel Walters, Jr., Peter B. Reed, Chas. D. Krause, J. T. Townsend; Geo. B. Lutts, Secretary; T. W. Madden, M.D., Inspector.

The population of Absecon by the census 1900 was 525, and it is estimated that the population for the present year is 575. The town is lighted with electric lights. Two meetings were held during the year.

Atlantic City.—MEMBERS AND OFFICERS—Thos. D. McDevitt, Elwood S. Johnson, Milton L. Somers, M.D., Wm. F. Clark, Walter J. McDevitt, Joseph E. Lingerman; Alfred W. Bally, M.D., Secretary; Alfred T. Glenn, Registrar; Thomas W. Clement, Health Inspector; Curtis Frambes, Plumbing Inspector; Harry C. Beck, Assistant Health Inspector; Benjamin Sooy, Assistant Health Inspector.

Incorporated March 3d, 1854, and the estimated population at present is 35,000. Communicable diseases were reported as follows: Diphtheria, 32; membranous croup, 2; scarlet fever, 40; typhoid fever, 80; small-pox, 13. An isolation hospital has been provided and is located outside the limits of the city. Water-mains have been extended 4 miles during the year. Two hundred and sixty-six dwellings have been connected with the water-mains during the year. Total number of dwellings connected, about 5,000. Premises connected with sewers during the year, 675. Garbage is incinerated and is collected under contract. It is removed daily except Sunday, twenty-four two-horse vehicles being employed. The cost of the service is \$15,000 a year. Rubbish and ashes are used to fill low places on meadow land. About 800 complaints were investigated and about 1,000 nuisances were abated. A city ordinance prohibits the use of kerosene lamps. House-to-house sanitary inspections are made every spring and records are kept of observations made. Several suits at law have been brought with judgment in favor of the board in each case. Gratuitous vaccination has been offered. Forty-eight meetings were held.

Following is a statement* by Philip Marvel, M.D., relative to the occurrence of typhoid fever in Atlantic City:

* Extract from paper read before Phila. Co. Med. Society.

ATLANTIC COUNTY—*Continued.*

The history of Atlantic City dates from 1852, but from this year until 1882 there is little of interest known relative to the subject of this paper, no record of any attention whatever having been given the question of sanitation until the latter year, at which time Dr. Boardman Reed and other members of the profession succeeded in organizing a board of health. The prejudice and lack of harmony in public feeling at the time served here, as elsewhere, to retard the board in accomplishing much until the following year; however, they were resolute and determined men, with conviction no less strong than the dangers they had organized to combat, and shortly led others to realize the necessity for such an organization.

In 1884, acting upon the recommendation of the board of health, a sewage system, known as the West system, was laid in the principal streets during this and the following year. Ordinance succeeded ordinance, recommending such legislation as would force property owners to connect their properties with the system where the pipes were already conveniently placed. Year after year the pipes were extended to both old and new territories, properties provided with proper means of connection, and public feeling, hitherto prejudicial, was largely overcome.

The placing of water pipes in the smaller houses, and subsequently destroying the surface wells, has led to the entire removal of surface drinking water, and how well the board of health has succeeded in its recommendations to have all properties connected with the sewer system may be seen in the recent report of the New Jersey State Board of Health for 1901, in which is briefly told the story of how persistent and untiring have been the efforts of our board. It is perhaps proper to state incidentally in this connection that no epidemic occurred in any of the unconnected districts previous to their being connected with the sewer, which fact doubtless was due to the strict and careful inspection that was given them. The following is extracted from the report: "Number of dwellings and tenement houses, 5,025; total number of dwellings connected with the water main, 4,550; total number of dwellings connected with the sewer system, 5,275." The seeming discrepancy in the foregoing figures, I take it, is that the first are intended to include only dwellings and tenements; of the latter there were 25; and the last to include all the above with the larger hotels and possibly recently-built houses, not yet occupied, all of which are compelled to connect. In all, there are now upward of thirty-five miles of sewer pipe in active service in Atlantic City. The sewage, with two exceptions, is directed to one common center, from which it is pumped through a thirty-inch iron disposal main to the Thoroughfare, a distance of two miles from the city. The average daily pumpage in the height of the season is five million gallons; for the remaining months it ranges from two to three million gallons, and the volume of water passing the outflow end of the sewage-disposal pipe in twenty-four hours is estimated to be upward of eight billion gallons. The exceptions referred to are: (1) A short run of pipe in the northern portion of what is known as the Moore tract, a small outlying district north of the railroad, which drains directly into Penrose canal, and (2) the northwestern portion of Chelsea, also north of the railroad, adjoining the back inlet and draining direct into the upper Thoroughfare.

The water-supply of Atlantic City is from three sources, viz.:

(1) From artesian wells within the city, ranging in depth from seven hundred and fifty to eight hundred feet.

(2) Artesian wells driven to a depth of forty to one hundred feet on the mainland, between six and seven miles from the city, the larger number of which are self-flowing.

LOCAL BOARDS OF HEALTH.

ATLANTIC COUNTY—*Continued*

(3) From an inland lake situated in an almost uninhabited section of Atlantic county, two miles farther inland. The overflow from this lake is continually renewed by constantly-flowing springs, situated within its basin, and a few tributary streams from cedar lowlands. A large portion of the water from this lake daily overflows and collects in a dam constructed for that purpose. When required, this water is brought from the lake to the pumping station, which is situated near the mainland series of artesian wells, through a narrow, open, artificial canal made in the soil, the bottom of which is of white sand and gravel.

At the pumping station the water received from the lake with that received from the driven wells is pumped through a sealed iron main to Atlantic City and to the standpipe, a distance of five miles, where a million or more gallons are kept in storage, being constantly replenished. The subterranean source from which the first series (*i. e.*, the deep wells) draw their supply, according to the description given in the State's Geological Survey, is that of the well-known eight-hundred-foot horizon extending northwest to southeast across the State, and is without possible pollution. The source of supply of the second series, and also of the flowing springs within the lake, has its beginning in the hill lands north of Hammonton, a distance of more than twenty miles, and filters through the strata of fine white sand, which is protected from the ordinary surface waters by a stratum of compact clay formation, between the six and nineteen-foot perpendicular. The third, or lake, supply of water, as stated by the engineer, is used very little except during the early spring months and Easter holidays, and in the midsummer months—more particularly July and August—when it composes less than two-fifths of the bulk supplied.

Therefore, the remaining eight months the city water-supply is almost entirely from an artesian source. The greater number of the large hotels have their own artesian wells, and are, therefore, neither dependent upon nor required to use the city's supply. Analyses of these waters made by Dr. Leffmann, of Philadelphia, and the State Geologist of New Jersey, taken independently from the three sources, have shown each to be exceptionally pure and wholesome. They have specially spoken of that obtained from the artesian wells, remarking upon its freedom from organic matter. Indeed, that received from the lake has so slight a percentage that it ranks much above the average spring and river supply. Whatever objections might arise in the future from the use of the water from this latter source will soon be removed, because the water commissioners have already in hand recommendations to put down more artesian wells—the depth of the second series—which, it is thought, will furnish a supply equal to and greater than the amount which will be required for many years. Also, for the purpose of protecting the lake for possible future demands, a suitable portion is to be cleansed, dammed and properly protected for emergency supply, which supply will be brought through a conduit to the present pumping station and filtered.

The garbage is collected daily in covered wagons, made for the purpose, and removed to a plant on the meadows, a distance of a mile from the city, where it is incinerated. It must be admitted, however, to the discredit of the authorities having it in charge, that the collections have not always been made according to the requirements of the ordinance; therefore, the department of health has not been without numerous complaints during the months that the service was most taxed, but the increase of typhoid fever in the city during the past summer and autumn has served to impress the said authorities with the

ATLANTIC COUNTY—*Continued.*

necessity for a more strict compliance than has hitherto been given to either individual complaints or the demands of the board of health.

The major part of the food-supply of Atlantic City is drawn from Philadelphia, New York City and the rural districts of Pennsylvania, New York and New Jersey, the most important exception being fish, which, in certain seasons of the year, are mostly taken from waters adjacent to this city. Deep-water fish, however, and varieties foreign to these waters, except bluefish, are largely imported direct from the northeastern and southern markets. Oysters are brought from the waters of the Delaware and Chesapeake and planted in the bays north and west of this city, varying in distance from four to seven miles, from where they are taken after proper growth to supply the city's market. The milk-supply furnishes no exception to that of all large cities, being received from large and small dairies situated in various farming districts of this and adjoining States.

Having briefly referred to the sources through which typhoid fever infection usually finds its introduction into our homes, as well as our cities, before more particularly considering the investigation and report of the committee appointed by the Atlantic City Academy of Medicine to ascertain, if possible, its source in Atlantic City, I wish to refer to some possibilities arising from the special relation which this city bears to the sanitary condition of the country at large. This question, however, may be simplified by referring to that of Philadelphia and other large cities near by. It may not be a unique situation, but certainly an exceptional one, to find for eight or more months in the year a city of any number of inhabitants, its greater number being already accredited residents of other cities.

For instance, when Atlantic City has from 200,000 to 300,000 people for its summer population, which represents a temporary transfer of large residential portions of various thickly-populated sections of other cities, there must necessarily come with such an aggregation of humanity a large importation of infectious disease and disease-producing germs. And again, the great and almost inestimable daily demands made upon the energies of those who have the responsibility of caring for this great army of health and pleasure seekers, rapidly exhausts their stored energies and leaves them with lessened resisting force, thus providing a suitable fallow ground for the development of infectious diseases. A study of this aspect of Atlantic City's position will show, without further argument, how very likely such an influx from so large a district as the "whole country" would disturb both the physical and sanitary conditions of the city, and the wonder is that it has not hitherto had many epidemic outbreaks of typhoid and other diseases—certainly no better or more potent argument can be used as evidence of the faithful guarding of the city's health in the past than the absence of epidemics, as verified by reference to the records of the city's board of health.

In 1882 Atlantic City's population was, in round numbers, 7,000; maximum daily number of visitors, in the summer, 40,000. In 1892, number of residents less than 20,000; maximum daily population in August, visitors, 100,000 to 125,000. In 1902, resident population, not more than 40,000; maximum daily population in August, visitors, not less than 250,000. During the remaining months, from September to July, the number of visitors will vary from 20,000 to 200,000. By this unequal relation Atlantic City's population is yearly increased, and suddenly transformed from that of a village to the number and importance of a great city. With the foregoing statement and figures before

ATLANTIC COUNTY—*Continued.*

you, I now come to the special discussion of the subject in question: "The Existence of Typhoid Fever in Atlantic City."

Reference to Atlantic City's board of health records from 1885 to the present year reflects the condition of the city's past and present health more nearly correctly than can be presented in any other way. From a study of these records, which are complete, with the exception of from 1888 to 1894, I am able to make the following statements:

During the years of 1885 to 1887, inclusive, the number of typhoid fever cases reported was nineteen. The largest number reported for any one year, thirteen; the smallest number reported, three, being an average of six and one-sixth for each year. Population: resident, 6,000 to 8,000; visiting, estimated minimum, 5,000; maximum, 50,000; average, about 25,000 to 30,000; from 1895 to 1901, inclusive, total number of cases reported, 208. Greatest number reported for any one year, forty-eight cases. Smallest number reported for any one year, eighteen cases, being an average per year of twenty-nine and five-sevenths cases. Population: resident, 20,000 to 35,000; visitors, 150,000 to 250,000. If we study this report in divisions, making the first include all cases reported between January and June of each year inclusive; the second, all reported between July and October, inclusive; and the third, all reported between November and December, inclusive, it forcibly demonstrates the period of the year when the largest number of cases have been observed. In the first division were reported fifty cases, or one and one-sixteenth per month. In the second division, 123 cases, or four and one-twenty-eighth per month; in the third division, twenty-five cases, or one and eleven-fourteenths per month.

It is to be regretted that the records do not indicate in all cases whether resident or visitor, hence any study of the reports looking to the correct estimate of the number infected in this city cannot be accepted as reliable, and in no case it is stated how long the individual was in the city previous to being stricken with the disease. That quite a number of the visitors with the "imported help" (which I desire to emphasize later) are included in a number that should be exempt from the records must be admitted without question. For instance, no subject developing the disease within ten to twelve days after arriving in the city should be accredited to causes prevalent here, and there is great reason for doubt as to whether, in many cases, the incubation period should not be more frequently placed at twenty rather than a less number of days. In support of the former statement I cite, as an incident in question, four cases attended personally this summer, each of which developed the disease respectively on the first, third, fifth and seventh days after their arrival in the city; and these were reported simply in the regular way. It is not only probable, but an unquestionable fact, that the same is true of cases attended by my colleagues and other physicians of our city. To return for a moment and briefly allude to the cases observed among "imported help," it may be stated without argument that these include a number of these hospital cases. If the total number of visitors who have been ill of typhoid fever in Atlantic City be added to the number of cases treated among the help, to which reference is above made, and this number deducted from the total number of cases reported to the board of health, there would be quite another and a different showing, and if one could only know how many of these cases brought the infection with them, and to this number add the number of cases among our own residents who became infected while visiting other cities where the disease was prevalent, we should have, I dare say, but a small percentage of the number recorded to Atlantic City's credit.

ATLANTIC COUNTY—*Continued.*

This brings me to the year 1902, when the circumstances are somewhat changed. Early in the month of August it became quite apparent to members of the profession that the typhoid bacillus had found a nidus within our city and was propagating rapidly and effectively. Frequent discussions were had upon the subject, and much careful thought and patient search given the investigation. In the early part of September, at a meeting of the Atlantic City Academy of Medicine, the subject was openly discussed, and subsequently a committee was appointed by the academy for the purpose of a thorough investigation. So careful and effective had been the work previously done by individuals that the committee's task was much lightened and resolved itself largely into a review and affirmation of that already done. After having considered the various sources of likely infection, as alluded to in the beginning of this paper, the committee, having exempted one source after another, finally found evidence which pointed strongly but circumstantially to the hapless and innocent oyster. It was sure of having located at least one source of infection, but before making the report Dr. A. C. Abbott, professor of bacteriology and hygiene, University of Pennsylvania, and Dr. Henry Leffmann, professor of chemistry in the Woman's Medical College of Pennsylvania, were asked, as experts, to examine the sources under investigation and pass upon the report before the same was submitted. This they did and it now bears their approval and signatures. (For detailed report, those who may be interested are referred to the *Philadelphia Medical Journal* of November 1st, 1902.) It was easy for oysters, "freshened" and "fattened" at the junction of Penrose canal and the Thoroughfare, to become sewage infected and polluted. "Fattening cribs," scarcely more than five hundred yards from the point at which the sewage was, by accident, being delivered into Penrose canal, were so situated as to receive the flood tide as it flowed through the canal to the Thoroughfare. Only ignorance could excuse men from so culpable a violation of sanitary law.

A similar, though much less dangerous, condition because of the small amount of sewage delivered was found to exist in Gardner's canal, an artificial creek, which is a short distance west of the mouth of the inlet. The findings of the committee were at once presented to the board of health, with the recommendation that an ordinance be prepared to include all of the adjacent waters around and about the city within a radius of three miles, and that any person or persons found planting, catching, "freshening" or "fattening" any shell-fish whatsoever within these waters, or offering for sale any shell-fish known to have been taken from these waters, shall be judged a violator of law and severely punished by fine and imprisonment; this to be passed by council and made active at once. It remains to be seen what knowledge exists of reasonable evidence of the transmission of typhoid bacilli to the oyster. This again is without direct proof, but a number of persons, quite a half dozen I should think, are known to have had typhoid fever for periods varying from one to six weeks, and from whom all the excreta were permitted to enter the sewer without the least attempt at disinfection; these being unrecognized, it is only fair to infer that they did not represent the whole number who may have been treated by the same gentlemen without proper disinfection. And it was true of many cases that they did not consult a physician until several days after the beginning of their illness. And, also, that simultaneously with the stopping the sale of oysters "freshened" and clams caught in the sewage-polluted waters, with few exceptions, the further development of cases of typhoid ceased.

ATLANTIC COUNTY—*Continued.*

It would be easy further to multiply evidence quite as probable as the foregoing, but it is unnecessary; that the infection was there is not disputed. The question is, from where did it come?

In accordance with statements and inferences already before you the way to a probable explanation readily opens. Having recently addressed the following letter to the health boards of the large cities on and adjacent to the Atlantic seaboard, I am in possession of information bearing upon the subject of typhoid fever in these cities which enables me to show the possibility that not only did the typhoid infection come from these sources, but also that a number of cases attributed to Atlantic City (some of which developed there and others after their arrival home) are probably wrongly placed at the city's door. Not having stated in my communications to the several boards that I desired the information for public print, I reserve the privilege of withholding the names of the cities addressed and the numbers individually reported, but may state that the aggregate number of cases enumerated in the reports received numbered nearly 10,000, which have already been reported in these cities this year, from all of which, to my personal knowledge, Atlantic City's past summer's population was materially increased.

I hope I have not been misunderstood in the foregoing, and certain it is, it has not been my intention in any way to mystify the subject or exempt Atlantic City from any part of a relation in the recent development and distribution of typhoid fever infection within its boundaries; therefore, in concluding, permit me to recapitulate briefly:

(1) The existence of typhoid fever, as was evidenced by the greater number of cases observed, was known to the profession in August.

(2) Though unofficially, the profession used its earnest and early endeavor to apprehend the source.

(3) The Atlantic City Academy of Medicine officially appointed a committee on September 19th, with full authority to investigate, and, if possible, to determine the source of the infection.

(4) The said investigation was successfully made, committee's deliberations examined and approved by two experts, and the reports accepted by the academy.

(5) A copy of the report was furnished the board of health with the committee's recommendations and was favorably received.

(6) Said recommendations were duly prepared, presented and acted upon by the board of health and to-day are an operative law.

(7) The knowledge acquired by the committee, within and without the city, was positively to exempt the water and milk-supply from contributing in any way to the source of infection.

(8) The knowledge obtained through the courtesy of the various boards of health, and the peculiar relation of the sanitation of Atlantic City to that of the larger cities of the country, makes it more than probable that Atlantic City was the victim rather than the source of the disease.

Buena Vista Township.—MEMBERS AND OFFICERS—Alfred Pennock, Vineland; Edward J. Smith, Richland; Jacob Blazer, Folsom; Thos. H. Hulta, Vineland; Douglass Reed, Secretary, Buena; Alfred Pennock, Registrar, Vineland.

ATLANTIC COUNTY—*Continued.*

Population, 1,400. Communicable diseases were reported as follows: Diphtheria, 2; scarlet fever, 24; typhoid fever, 5. Two meetings were held.

Brigantine City.—MEMBERS AND OFFICERS—Dr. McBurkhard, A. M. Smith, F. W. Willett, Wm. Holdzkom; James R. Bissex, Secretary.

Three meetings were held.

Egg Harbor City.—MEMBERS AND OFFICERS—Geo. F. Breder, Theo. H. Boysen, M.D., Henry G. Regensburg, August A. Breder; Valentine P. Hofmann, Secretary.

Estimated population, 1,900. Communicable diseases were reported as follows: Diphtheria, 1; scarlet fever, 1; typhoid fever, 1. Ninety-two dwellings are connected with the public water-mains. Ten nuisances were abated. Thirteen meetings were held.

Egg Harbor Township.—MEMBERS AND OFFICERS—Walter Efield, Bakersville; Capt. John Blackman, Steelmanville; Theodore Smith, Sculville; A. R. Vickers, Secretary, Bakersville.

Fourteen cases of typhoid fever and one of scarlet fever were reported. Thirty-two dwellings are connected with the public water-supply. Five meetings were held.

Galloway Township.—MEMBERS AND OFFICERS—Daniel L. Mathews, Oceanville; Joseph C. Bowen, Port Republic; John L. Purzner, Cologne; Joseph Nehr, Secretary, Cologne; E. H. Madden, M.D., Inspector, Absecon.

One meeting was held.

Hamilton Township.—MEMBERS AND OFFICERS—Joseph L. Veal, D. W. McClure, Andrew G. Stewart, Jr.; Joseph Hammill, Registrar; Edward J. Hazelton, Secretary; H. C. James, M.D., Inspector. All of Mays Landing.

Three cases of diphtheria were reported. One nuisance was abated. Number of unvaccinated school children, 120. Seven meetings were held.

ATLANTIC COUNTY—*Continued.*

Town of Hammonton.—MEMBERS AND OFFICERS—M. L. Jackson, Joseph H. Gorton, Dr. Joseph C. Bitler, Wm. Cunningham; J. L. O'Donnell, Secretary; Dr. Chas. Cunningham, Inspector.

Estimated population, 4,000. Communicable diseases were reported as follows: Diphtheria, 23; small-pox, 1. Six nuisances were abated. Six meetings were held.

Mullica Township.—MEMBERS AND OFFICERS—Reuben Brooks, Elwood; Alex. J. McKeone, Pleasant Mills; Chas. Saalman, Egg Harbor City; John T. Irving, Secretary, Elwood; W. W. Phillips, Registrar, Elwood.

Three cases of diphtheria were reported. One nuisance was abated. Two meetings were held.

Pleasantville Borough.—MEMBERS AND OFFICERS—Pardon R. Adams, Samuel Bartlett, Lewis H. Barrett, Frank Reiner; Wilbur Reed, Secretary; Dr. R. M. Sooy, Inspector.

Estimated population, 2,500. Two cases of diphtheria occurred. Three nuisances were abated. Twelve meetings were held.

Somers Point Borough.—MEMBERS AND OFFICERS—A. F. Kapella, Wm. E. Hawkins, Wm. Dinger, John Townsend, E. Connelly; Winfield R. Fox, Registrar.

South Atlantic City.—MEMBERS AND OFFICERS—Charles Boggs, Josiah Norcross, P. J. Gilligan; Charles Hart, Registrar.

Estimated population, 200. Twelve meetings were held.

BERGEN COUNTY.

Allendale Borough.—MEMBERS AND OFFICERS—Dr. Parkhurst, J. J. Pullis, Jno. A. Mallison, R. R. Letts; J. M. Christopher, Secretary; W. E. Carver, Inspector.

Two meetings were held.

Bergenfield Borough.—MEMBERS AND OFFICERS—Allan J. Lawrence, W. B. W. May, B. Van Saun, F. Biresacher; John J. Huyler, Secretary.

Three meetings were held.

BERGEN COUNTY—*Continued.*

Bogota Borough.—MEMBERS AND OFFICERS—John McNaughton, A. G. Munn, Jr., Peter Bogart, Vincent S. Walsh, John A. Welsch; Thomas J. Roberts, Secretary; Wm. S. Hopper, Inspector.

Two cases of diphtheria occurred. Seventy dwellings are connected with the public water-supply. Two nuisances were abated. Six meetings were held.

Carlstadt Borough.—MEMBERS AND OFFICERS—Wm. Fleischmann, Chas. Long, Frank Hoffman; Herman Foth, Secretary; Ernest F. Sickenberger, Inspector; Henry Krelling, Jr., Assistant Inspector.

Estimated population, 3,000. One case of diphtheria and one case of small-pox were reported. Thirty nuisances were abated. Four suits were brought for violation of ordinances and the penalty was collected in each case. Thirteen meetings were held.

Cliffside Park Borough.—MEMBERS AND OFFICERS—S. Wood McClane, Cliffside; Geo. W. Laird, Cliffside; Edward George, Cliffside; R. H. Nutt, Secretary, Cliffside; Jean Henri Raas, Registrar, Cliffside Park.

This borough was incorporated in 1895. Estimated population, 1,200. Four cases of small-pox occurred. Three nuisances were abated. Four meetings were held.

Cresskill Borough.—MEMBERS AND OFFICERS—Frank J. Smith, Aaron C. Demarest, Henry V. Westervelt; John W. Flecke, Secretary; Geo. Y. Allaire, Registrar; Dr. J. B. W. Lansing, Inspector, Tenafly.

Estimated population, 400. Five cases of small-pox and one of diphtheria were reported. Eight nuisances were abated. Twenty-five meetings were held.

Delford Borough.—MEMBERS AND OFFICERS—R. W. Cooper, New Milford; J. D. Van Wagner, Oradell; T. Knight, Oradell; Geo. F. Moore, Secretary, Oradell; H. A. Bingham, Registrar, Oradell; F. O. Blenckstone, M.D., Inspector, Oradell.

One nuisance was abated. Two meetings were held.

Dumont Borough.—MEMBERS AND OFFICERS—D. D. Blauvelt, E. B. Root, H. B. Jenkins, Secretary; J. E. Pratt, M.D., Inspector.

Estimated population, 643. Three cases of diphtheria occurred. One nuisance was abated. Two meetings were held.

BERGEN COUNTY—*Continued.*

East Rutherford Borough.—MEMBERS AND OFFICERS—W. E. Ogden, M.D., N. Klipp, A. Bolle; W. E. Novo, Secretary; P. B. S. Hodges, Inspector.

Estimated population, 2,900. Communicable diseases were reported as follows: Diphtheria, 7; scarlet fever, 6; typhoid fever, 2; small-pox, 1. The expenditure during the fiscal year for the collection and disposal of garbage was \$424. Number of nuisances abated, 22. Fifteen meetings were held.

Edgewater Borough.—MEMBERS AND OFFICERS—George W. Allison, George A. Carleton, Robert Proctor, John Winterburn; Edward Fischer, Secretary.

Estimated population, 1,065. Two cases of small-pox were reported to the board. Four nuisances were abated. Nine meetings were held.

Englewood City.—MEMBERS AND OFFICERS—Joseph Klink, Fred. C. Lachmund, J. E. Demarest, Dr. Geo. B. Best; Gilliam D. Bogert, Secretary; Robert Jamieson, Registrar; Valentine Ruch, Jr., Inspector.

Estimated population, 6,500. Communicable diseases were reported as follows: Diphtheria, 13; scarlet fever, 11; typhoid, 4; small-pox, 1. Total number of dwellings connected with public water-supply, 879. The board of health holds bi-monthly meetings.

Englewood Cliffs Borough.—No organized board of health. John G. Ropes, Assessor, Fort Lee.

Fairview Borough.—MEMBERS AND OFFICERS—F. Schneider, Wm. Wingerath; C. M. Driggs, Secretary; J. C. Bush, Registrar.

Estimated population, 1,200. Three of scarlet fever and one of typhoid fever were reported. Three nuisances were abated. Nine meetings were hld.

Franklin Township.—MEMBERS AND OFFICERS—John W. Courter, Campaw; C. H. Bush, Crystal Lake; Daniel Van Houten, Wyckoff; John W. Ackerman, Secretary, Wyckoff; Dr. E. W. Hamilton, Inspector.

One case of diphtheria and one of scarlet fever occurred. Three nuisances were abated. Four meetings were held.

BERGEN COUNTY—*Continued.*

Garfield Borough.—MEMBERS AND OFFICERS—J. Vander Plaats, Jr., Geo. S. Davenport, M.D., John Karl, Franz Bierman; P. J. Scanlon, Secretary; Frank C. Hoff, Inspector.

Estimated population, 4,500. Five cases of diphtheria and three cases of typhoid fever were reported. Sixty dwellings are connected with the public water-mains. Forty complaints were investigated and 25 nuisances were abated. There are 200 unvaccinated children in the schools. Twelve meetings were held.

Glen Rock Borough.—No organized board of health. Wm. H. Berry, Borough Clerk.

Hackensack City.—MEMBERS AND OFFICERS—Robert G. Wool, Tennis A. Haring, Samuel Crissy, Lemuel Lozier, Wm. P. Ammerman, John McD. Gamewell; John Covert, Secretary; C. E. Eckerson, Registrar; Robert Ballagh, Inspector; Dr. F. S. Hallett, Inspector.

Estimated population, 10,000. Communicable diseases were reported as follows: Diphtheria, 28; scarlet fever, 56; typhoid, 3; small-pox, 8. Dwellings connected with water-mains during the year, 95. Complaints investigated, 44. Nuisances abated, 30. Fifteen meetings were held.

Harrington Township.—MEMBERS AND OFFICERS—Wm. C. Lindeman, Closter; Joseph Mount, Haworth; John W. Van Blarcom, Norwood; Wm. J. Demarest, Secretary, Norwood; Louis B. Parsell, M.D., Inspector, Closter.

Communicable diseases were reported as follows: Diphtheria, 1; scarlet fever, 4; small-pox, 1. Ten nuisances were abated. Seventeen meetings were held.

Hasbrouck Heights Borough.—MEMBERS AND OFFICERS—Frank S. Flagg, A. K. Goodrich, James S. Valentine, S. V. Morris, M.D.; John G. Martin, Secretary; Robert Ballagh, Inspector, Hackensack.

Estimated population, 1,500. One case of diphtheria occurred. Three nuisances were abated. Twenty-five per cent. of the school children are unvaccinated. Three meetings were held.

BERGEN COUNTY—*Continued.*

Hohokus Township.—MEMBERS AND OFFICERS—John C. Ryerson, Ramseys; Edwin F. Carpenter, Ramseys; Charles May, Ramseys; C. P. DeYoe, M.D., Ramseys; John Ackerman, Secretary, Wyckoff; James W. Collins, M.D., Inspector, Ramseys.

Three nuisances were abated. Two meetings were held.

Leonia Borough.—MEMBERS AND OFFICERS—James T. Wyckoff, M.D., Fred. W. West, Alfred P. Hurd, Theo. S. Goesser; H. M. Thompson, Secretary; Arthur D. Bogert, Inspector.

Estimated population, 1,000. Fourteen meetings were held.

Little Ferry Borough.—MEMBERS AND OFFICERS—Fred. Werncking, Chas. Heuer, R. Van Sadars, Frank Novak; A. W. Woods, Secretary.

Estimated population, 1,200. Communicable diseases were reported as follows: Diphtheria, 3; scarlet fever, 5; typhoid fever, 2; small-pox, 4. Three nuisances were abated. One case of glanders occurred. Thirteen meetings were held.

Lodi Borough.—MEMBERS AND OFFICERS—James J. Mason, Christopher Tattersall, John Hagerty, Anthony De Ward; Jacob Van Hook, Secretary; E. E. Conover, M.D., Inspector, Hasbrouck Heights.

Estimated population, 2,100. Communicable diseases were reported as follows: Diphtheria, 2; scarlet fever, 3; typhoid fever, 1. Total number of dwellings connected with public water-mains, 121. Three nuisances were abated. Ten meetings were held.

Lodi Township.—MEMBERS AND OFFICERS—Hermann Schmidt, Wood Ridge; Peter Strunk, Wood Ridge; Frank Switz, Little Ferry; Julius Pries, Secretary, Wood Ridge.

Two cases of diphtheria and eight of scarlet fever were reported. One nuisance was abated. All school children were vaccinated during the year. Three meetings were held.

Maywood Borough.—MEMBERS AND OFFICERS—P. Thoma, H. Heck, J. R. Davies, G. M. Fetzer; W. Widnall, Jr., Secretary.

One nuisance was abated. Three meetings were held.

BERGEN COUNTY—Continued.

Midland Township.—MEMBERS AND OFFICERS—John G. Zabriskie, Rochelle Park; Jacob H. Blauvelt, Ridgewood; Otta Welsgerber, Rochelle Park; John D. Bogert, Secretary, Ridgewood; Wm. L. Vroom, M.D., Inspector, Ridgewood.

Two cases of diphtheria and two of scarlet fever were reported. Two meetings were held.

Midland Park Borough.—MEMBERS AND OFFICERS—Thomas Holt, Midland Park; John L. Guyre, Midland Park; John Klopman, Wortendyke; Jacob Leenas, Secretary, Wortendyke; Dr. Wm. L. Vroom, Inspector, Ridgewood.

Estimated population, 1,450. Three cases of diphtheria and two of scarlet fever were reported. Two nuisances were abated.

Old Tappan Borough.—MEMBERS AND OFFICERS—James J. O'Connor, Westwood; Joseph Flate, Westwood; James Amos, Westwood; John Mauer, Tappan; R. B. Haring, Secretary, Tappan, N. Y.

One case of scarlet fever occurred. Three meetings were held.

Orville Township.—MEMBERS AND OFFICERS—Edward West, Jr., Hohokus; James Vandyne, Waldwick; Lewis Terhune, Waldwick; Geo. M. Ockford, M.D., Ridgewood; J. B. Ver Nooy, Secretary, Waldwick; Wm. Sharp, Inspector, Waldwick.

Two cases of diphtheria occurred. One nuisance was abated. Two meetings were held.

Palisade Township.—MEMBERS AND OFFICERS—Milford Streeter, James E. Collins, John H. Vanderbeck; Wm. Ely, Secretary, New Bridge; Dr. Ackerman, Inspector.

Three cases of diphtheria and one of typhoid fever occurred. Four meetings were held.

Palisades Park Borough.—MEMBERS AND OFFICERS—Johanis Johnson, Paul Herzog, A. L. Phillips, M. E. Jenkins, James Goodwin; Martin Brunings, Secretary.

Estimated population, 700. Five cases of diphtheria and one of small-pox occurred. Forty dwellings are connected with the public water-supply. Eighteen meetings were held.

BERGEN COUNTY—*Continued.*

Ridgefield Borough.—MEMBERS AND OFFICERS—W. B. Reuchart, B. S. Ledmon, J. C. McGill, E. Robinson; B. F. Underwood, M.D., Secretary.

Estimated population, 650. Six cases of scarlet fever occurred. The monthly expenditure for the collection and disposal of garbage is \$16. Two nuisances were abated. Six meetings were held.

Ridgefield Park Village.—MEMBERS AND OFFICERS—Hugh Innes, John W. DeGroat, Henry Leinweber, DeLoss S. Servoss; Edgar T. Bonds, Secretary; Wm. O. Wilcox, Township Clerk; Wm. P. Ackerman, Health Inspector; Geo. L. Crane, Plumbing Inspector.

Estimated population, 2,800. Three cases of diphtheria, 7 of scarlet fever and 1 of small-pox occurred. A new sewer system has been introduced in the borough. Number of nuisances abated, 21. All school children are vaccinated. Twenty meetings were held.

Ridgewood Village.—MEMBERS AND OFFICERS—C. P. Crouter, J. R. Stevens, Dr. W. L. Vroom, M. T. Richardson, W. J. Fullerton; J. Blauvelt Hopper, Secretary; Thos. Terhune, Registrar; Dr. J. T. DeMund, Inspector; P. E. Pullis, Assistant Inspector.

Estimated population, 2,800. Cases of communicable diseases were reported as follows: Mumps, 22; measles, 71; chicken-pox, 5; whooping cough, 3; diphtheria, 4; scarlet fever, 7; typhoid fever, 5. Five nuisances were abated. Twelve meetings were held.

Riverside Borough.—MEMBERS AND OFFICERS—John A. Jenkins, Cherry Hill; Jacob H. Vanderbeck, River Edge; Bruce Mapes, Cherry Hill; Hermann Gabber, River Edge; Wm. W. Herrick, Secretary, River Edge; Joseph Weston, Registrar, Cherry Hill; Geo. Ballaugh, Plumbing Inspector, Hackensack; Geo. H. McFadden, Medical Inspector, Hackensack.

Estimated population, 540. One case of small-pox occurred. Eight nuisances were abated. Eight meetings were held.

Rutherford Borough.—MEMBERS AND OFFICERS—F. M. Buckles, J. C. Sares, G. W. Lawton, Chas. Colhoun, M.D., Geo. B. Gale, M.D.; P. H. Malson, Secretary; Chas. L. Crear, Inspector.

Estimated population, 6,000. Communicable diseases were reported as follows: Diphtheria, 2; scarlet fever, 28; typhoid

BERGEN COUNTY—Continued.

fever, 6; small-pox, 6. All cases of small-pox are sent to the isolation hospital at Snake Hill. Annual expenditure for collection and disposal of garbage, \$2,000. Fifty nuisances were abated. Number of unvaccinated school children, 260. Seventeen meetings were held.

Saddle River Township.—MEMBERS AND OFFICERS—John Strehl, Fair Lawn; Wm. H. Ackerman, Warren Point; Lela Doremus, Paterson; Isaac A. Hopper, Secretary, Fair Lawn.

Nine cases of diphtheria and eleven of scarlet fever occurred. Six meetings were held.

Teaneck Township.—MEMBERS AND OFFICERS—Wm. Bennett, Englewood; Robert Stevenson, Englewood; Peter I. Ackerman, Hackensack; Jonathan Hawkins, Secretary, Englewood.

Union Township.—MEMBERS AND OFFICERS—Henry Romine, Kingsland; Chas. Rehwooldt, Kingsland; Henry Danton, Lyndhurst; Thos. E. Buckley, Secretary, Lyndhurst; Peter A. Kuhn, Inspector, Lyndhurst.

Two cases of scarlet fever and two of small-pox occurred. Four nuisances were abated. Fourteen meetings were held.

Upper Saddle River Borough.—MEMBERS AND OFFICERS—Herman F. Hopper, Edward H. Smith, John Swartz, John McLaughlin, Levi C. Fredericks; Henry Zabriskie, Secretary; A. A. Zabriskie, Registrar; Dr. B. A. Vannoy, Inspector.

Estimated population, 500. One case of typhoid fever was reported. Ten meetings were held.

Washington Township.—MEMBERS AND OFFICERS—Daniel O'Mara, Etna; Peter J. Westervelt, Westwood; Edward C. Sarson, Westwood; Nicholas Cleveland, Secretary, Westwood.

One case of small-pox and one of scarlet fever occurred. Three meetings were held.

Westwood Borough.—MEMBERS AND OFFICERS—S. J. Zabriskie, I. Onderdonk, T. C. Bogert, G. M. Oetignon; J. E. Haring, Secretary; W. C. Demarest, Inspector.

Estimated population, 850. Four cases of diphtheria, one of scarlet fever and one of small-pox occurred. Six meetings were held.

BERGEN COUNTY—*Continued.*

Woodcliff Borough.—MEMBERS AND OFFICERS—S. Burrage Reed, Woodcliff; John H. Wortendyke, Woodcliff; P. Elvin Van Riper, Saddle River; Wm. English, Woodcliff, David H. Tice, Saddle River; G. J. Wortendyke, Secretary, Woodcliff.

One case of scarlet fever and one of typhoid fever occurred. One complaint was investigated. One meeting was held.

Wood Ridge Borough.—MEMBERS AND OFFICERS—Joseph H. Smith, Sauk Fischer, John Klock; Wm. H. White, Secretary; Henry W. Ostrowski, Inspector.

Estimated population, 600. Total number of dwellings connected with public water-supply, 60. Ten complaints were investigated and three nuisances abated. Eight meetings were held.

BURLINGTON COUNTY.

Beverly City.—MEMBERS AND OFFICERS—R. P. Haines, John Allen, George Smith, Chas. Parsons, Jr., Dr. J. Currie; Dr. B. F. Soby, Secretary; C. F. Richardson, Inspector.

The city was founded in 1850. Three cases of scarlet fever, one of typhoid fever and one of small-pox were reported. Seventeen meetings were held.

Beverly Township.—MEMBERS AND OFFICERS—Wm. T. Baggs, Beverly; W. W. Weller, Delanco; H. N. Perkins, Beverly; Joseph B. Carter, Secretary, Delanco; H. K. Weller, M.D., Inspector, Beverly.

Three nuisances were abated. Six meetings were held.

Bordentown City.—MEMBERS AND OFFICERS—David R. Brown, Samuel E. Burr, Dr. L. D. Tebo, Dr. C. D. Mendenhall, Samuel R. Magee, Edwin L. Thompson; Dr. Wm. H. Shipps, Secretary; H. J. Marran, Inspector.

Communicable diseases were reported as follows: Diphtheria, 9; scarlet fever, 7; typhoid fever, 81; small-pox, 1. The water-supply, which is taken from Crosswicks creek, is polluted by sewage from a large portion of the town, and the report shows that the cause of the epidemic of typhoid fever is directly traceable

BURLINGTON COUNTY—*Continued.*

to pollution of the public water-supply. Seventy complaints were investigated during the year, and sixty nuisances were abated. Fourteen meetings were held.

Bordentown Township.—MEMBERS AND OFFICERS—Dr. Hugh Lajambre, George Stricker, F. W. Taylor, Dr. Wm. H. Shipps; Milton R. Cox, Secretary. All of Bordentown.

Five cases of typhoid fever occurred, and it is supposed that the cases were due to the pollution of the public water-supply of Bordentown. Four meetings were held.

Burlington City.—MEMBERS AND OFFICERS—John B. Cassady, M.D., Wm. C. Farner, Thos. H. Birch, N. D. Keeler; Alfred P. Silpath, Secretary; T. Frank Cline, Registrar; Wm. M. Jeffries, Inspector.

Population, 8,000. Communicable diseases were reported as follows: Diphtheria, 8; scarlet fever, 15; typhoid fever, 12; small-pox, 16. Garbage collection costs the city \$650 each year. Number of nuisances abated, 198. There are 265 unvaccinated school children in the city. Gratuitous vaccination has been offered to the public. Twenty-five meetings were held.

Burlington Township.—MEMBERS AND OFFICERS—Wm. J. Terrill, Edward B. Deacon, Ellis W. Scott, J. B. Cassady, M.D.; Thos. B. Gandy, Secretary. All of Burlington City.

Two cases of small-pox were reported. Six meetings were held.

Chester Township.—MEMBERS AND OFFICERS—George Brock, Dr. Joseph Stokes, Arthur J. Collins; Benjamin Rogers, Secretary; Dr. F. G. Stroud, Inspector. All of Moorestown.

Communicable diseases were reported as follows: Diphtheria, 5; scarlet fever, 40; typhoid fever, 7. Nuisances abated, 25. Four meetings were held.

Chesterfield Township.—MEMBERS AND OFFICERS—Chas. E. Wallace, Chesterfield; Edward M. Ridgway, Crosswicks; C. Walter Miller, Chesterfield; Newton H. Chaffee, M.D., Chesterfield; Chas. B. Holloway, Secretary, Chesterfield.

Five cases of diphtheria and one of typhoid fever occurred. One nuisance was abated. Three meetings were held.

BURLINGTON COUNTY—*Continued.*

Cinnaminson Township.—MEMBERS AND OFFICERS—Clayton Conrow, Cinnaminson; Wm. Schmerer, Cinnaminson; Isaac Evaul, Palmyra; Timothy Morton, Secretary, Parry; Joshua D. Janney, M.D., Inspector, Cinnaminson.

One nuisance was abated.

Delran Township.—MEMBERS AND OFFICERS—George Friday, Riverside; Samuel Caldwell, Bridgeboro; Alex. Bright, Bridgeboro; Daniel A. Kendall, Secretary, Riverton; James Richardson, Inspector, Riverside.

Two cases of diphtheria occurred. Two meetings were held.

Eastampton Township.—MEMBERS AND OFFICERS—Joseph Simons, Smithville; Harry Githens, Smithville; Joseph Stiles, Mt. Holly; Chas. H. Dennins, Jr., Secretary, Smithville; Geo. L. Vandever, Inspector, Mt. Holly.

Two cases of diphtheria, one of scarlet fever and one of small-pox were reported. Four meetings were held.

Evesham Township.—MEMBERS AND OFFICERS—Wm. J. Evans, J. W. Powell, A. W. Lofand, S. D. Farrow; P. V. Stroud, M.D., Secretary, Marlton.

One case of typhoid fever was reported. Seventy-five dwellings are connected with the public water-supply. Two nuisances were abated. There are 179 unvaccinated children in the schools. One meeting was held.

Fieldsboro Borough.—MEMBERS AND OFFICERS—W. I. Leonard, Joseph V. Carter, Walter Griffith; W. Leatherbury, Secretary; Samuel Church, Inspector.

Two nuisances were abated. Gratuitous vaccination was offered to the public by the board. Eight meetings were held.

Florence Township.—MEMBERS AND OFFICERS—William Kimble, Dr. David Baird, Jr., George Beatty, Oscar Donnelly; Byron Carty, Secretary. All of Florence.

Two meetings were held.

Lumberton Township.—MEMBERS AND OFFICERS—Edward T. Haines, Mt. Holly; Louis Trautman, Jr., Hainesport; Engle Haines, Masonville; Dr. Wm. C. Parry, Hainesport; Henry D. Cullen, Secretary, Hainesport.

Two cases of diphtheria occurred.

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BURLINGTON COUNTY—*Continued.*

Mansfield Township.—MEMBERS AND OFFICERS—A. N. Dobbins, Columbus; W. Howard Shreve, Hedding; George W. Green, Georgetown; E. D. Erhart, Secretary, Columbus; Austin Patterson, M.D., Inspector, Georgetown.

One nuisance was abated. Two meetings were held.

Medford Township.—MEMBERS AND OFFICERS—R. S. Braddock, M.D., Joseph H. Haines, Lewis L. Sharp, M.D.; Wm. M. Potts, Secretary, Medford.

Three cases of scarlet fever and one of typhoid fever were reported. Two meetings were held.

Mt. Laurel Township.—MEMBERS AND OFFICERS—Richard G. Dudley, Moorestown; Samuel B. Lippincott, Moorestown; Wm. A. Wilkins, Masonville; Wm. P. Lippincott, Secretary, Hartford; F. G. Stroud, M.D., Inspector, Moorestown.

One case of scarlet fever occurred. One meeting was held.

New Hanover Township.—MEMBERS AND OFFICERS—George C. Davis, Wrightstown; Samuel W. Bishop, Pointville; James Murphy, Ellisdale; Benjamin Remine, Secretary, Wrightstown; Amos Shaw, M.D., Inspector.

One nuisance was abated. Two meetings were held.

Northampton Township.—MEMBERS AND OFFICERS—Joseph Elbertson, T. Lacy Akins, Fred. Shemely; M. H. Girven, Secretary; Dr. R. H. Parsons, Inspector. All of Mt. Holly.

Communicable diseases were reported as follows: Diphtheria, 7; scarlet fever, 6; typhoid fever, 6; small-pox, 2. Twelve meetings were held.

Palmyra Township.—MEMBERS AND OFFICERS—James E. Russell, President; Frank W. Smith, Joseph A. Davis, Dr. L. L. Sharp; Frederick Blackburn, Secretary and Inspector.

Pemberton Borough.—MEMBERS AND OFFICERS—Anthony J. Morris, J. Goldy Montgomery, Wm. H. Smith, Harry Ridgway; John H. Antrim, Secretary.

Pemberton Township.—MEMBERS AND OFFICERS—Victor Bush, Pemberton; I. W. Rogers, Pemberton; Chas. Kinsley, Brown's Mills; Barclay Seeds, Secretary, Pemberton; M. W. Hengrove, Inspector, Brown's Mills.

One meeting was held.

BURLINGTON COUNTY—*Continued.*

Riverton Borough.—MEMBERS AND OFFICERS—Jno. C. S. Davis, Chas. C. Reinhard, Dr. Harry Wyman, Chas. L. Flanagan; Alex. Marcy, Jr., M.D., Secretary; Jacob Cottrell, Registrar.

Cases of communicable diseases were reported as follows: Diphtheria, 2; scarlet fever, 19; typhoid fever, 1. Six nuisances were abated. A new sewer system has recently been completed. Gratuitous vaccination was offered to the public during the year. Monthly meetings were held.

Shamong Township.—MEMBERS AND OFFICERS—Samuel L. Doughty, Vincentown; Wm. H. Brown, Indian Mills; John Miller, Indian Mills; Jas. K. Naylor, Secretary, Indian Mills.

Springfield Township.—MEMBERS AND OFFICERS—Thomas L. Asay, Jacksonville; Allan M. Cox, Juliustown; Edward H. Lippincott, Jobstown; Theo. F. Wright, Secretary, Jobstown; Elias D. Main, M.D., Sykesville.

One meeting was held.

Tabernacle Township.—MEMBERS AND OFFICERS—J. C. Haines, A. C. Taylor, Wm. Cutts, Jr.; Geo. H. Wislam, Secretary. All of Vincentown.

Washington Township.—MEMBERS AND OFFICERS—C. T. Allen, Lower Bank; T. K. Sooy, Green Bank; Geo. W. Thomas, Jenkins Neck; Walter S. Sooy, Secretary, Green Bank; John E. Cary, Inspector, Lower Bank.

Two meetings were held.

Westampton Township.—MEMBERS AND OFFICERS—Stuart McFarland, Rancocas; Firman Dubell, Mount Holly; Clarence Loveland, Mount Holly; Hudson B. Haines, Secretary, Rancocas.

Woodland Township.—MEMBERS AND OFFICERS—Victor Ritzendollar, Chatsworth; Alburdis Reeves, Chatsworth; Chas. H. Pittman, Brown's Mills; Elmer Dunfee, Secretary, Chatsworth.

Seven cases of scarlet fever were reported. Two meetings were held.

CAMDEN COUNTY.

Camden City.—MEMBERS AND OFFICERS—S. G. Bushey, M.D., Henry H. Davis, M.D., Chas. Watson, R. H. Gaskill, J. W. Fithian, M.D., M. F. Middleton, M.D., J. S. Baer, M.D.; Eugene B. Roberts, Secretary; H. C. Kramer, Registrar; John F. Leavitt, M.D., Inspector; Henry B. Francis, Inspector; Joseph A. Starr, Inspector; J. O. George, Inspector; E. G. C. Bleakly, Solicitor.

Communicable diseases were reported as follows: Diphtheria, 163; scarlet fever, 148; typhoid fever, 38; small-pox, 216. Total number of dwellings connected with public water-mains, 15,890. The city expends \$3,400 yearly for garbage collection. Number of complaints investigated, 1,123. Nuisances abated, 946. Number of persons taking advantage of the offer of free vaccination, 8,000. Twenty-five meetings were held.

Centre Township.—MEMBERS AND OFFICERS—Wm. H. Bray, Mount Ephriam; H. M. Haines, Magnolia; Harry B. Wolohon, Magnolia; J. H. Jackson, Secretary, Magnolia; Leslie C. Lyon, M.D., Magnolia; Frank D. Weaver, Solicitor, Haddonfield.

Communicable diseases were reported as follows: Diphtheria, 4; scarlet fever, 4; typhoid fever, 4; small-pox, 1. Four meetings were held.

Chesilhurst Borough.—No organized board of health. Albert Ladynski, Borough Clerk.

Collingswood Borough.—MEMBERS AND OFFICERS—Thomas W. Jack, G. Parker Sutton, W. A. Griffin, Benjamin Mahan, Robert C. Taylor, Harry W. Dilkes; Robert S. Duff, Secretary; Dr. Edward S. Sheldon, Inspector; A. L. Rudderow, Plumbing Inspector.

This borough was incorporated in 1895. Estimated population, 2,000. Communicable diseases were reported as follows: Diphtheria, 1; scarlet fever, 25; typhoid fever, 1; small-pox, 10. Number of dwellings connected with the public water-supply, 441. Number of complaints investigated, 20. Number of nuisances abated, 15. Free vaccination was offered during the year. Twenty-seven meetings were held.

CAMDEN COUNTY—*Continued.*

Delaware Township.—MEMBERS AND OFFICERS—Richard C. Kaighn, Ellisburg; Joseph C. Hinchman, Merchantville; J. Watson Matlack, Haddonfield; Wm. Graff, Haddonfield; W. B. Jennings, M.D., Secretary, Haddonfield.

Four cases of small-pox, 5 of typhoid fever, and 1 of scarlet fever were reported. Two nuisances were abated. Five meetings were held.

Gloucester Township.—MEMBERS AND OFFICERS—John Stetson, Kirkwood; James McWilliams, Cross Keys; Samuel Batten, Sr., Blackwood; Willard T. Gibbs, Secretary, Clementon; Dr. Joseph E. Hurff, Inspector, Blackwood.

Communicable diseases were reported as follows: Diphtheria, 4; scarlet fever, 6; typhoid fever, 10; small-pox, 1. Six meetings were held.

Haddon Township.—MEMBERS AND OFFICERS—Samuel Wood, Haddonfield; Chas. Schnitzler, Orston; A. L. Farrand, Oaklyn; James Macaulay, Secretary, Haddonfield; W. B. Jennings, M.D., Inspector, Haddonfield.

Communicable diseases were reported as follows: Diphtheria, 2; scarlet fever, 7; typhoid fever, 2; small-pox, 1. Two nuisances were abated. Seventeen meetings were held.

Haddonfield Borough.—MEMBERS AND OFFICERS—Wm. J. Boning, Chas. H. Hillman, Edward B. Austin, Dr. L. L. Slover; Wm. H. Harrison, Secretary; Isaac E. Shivers, Inspector.

Estimated population, 3,000. Communicable diseases were reported as follows: Diphtheria, 2; scarlet fever, 2; typhoid fever, 10; small-pox, 5. Number of nuisances abated, 23. Eighteen meetings were held.

Merchantville Borough.—MEMBERS AND OFFICERS—Dr. J. W. Marcy, F. W. Kleinz, Dr. Robert Finley, A. H. Moses, J. E. Vankirk; W. B. Stewart, Secretary; Wm. Linderman, Inspector.

Estimated population, 1,450. Four cases of typhoid fever and 1 of small-pox were reported. Thirty nuisances were abated. Nine meetings were held.

CAMDEN COUNTY—*Continued.*

Pensauken Township.—MEMBERS AND OFFICERS—Chas. Jennings, Merchantville; Harry Gaskill, Merchantville; Edward Pierson, Delair; Harry E. Horner, Secretary, Merchantville; Job Pidgeon, Inspector, Pensauken.

Three cases of diphtheria and 9 of small-pox occurred. Monthly meetings are held.

Voorhees Township.—MEMBERS AND OFFICERS—Edward C. Gardner, Kirkwood; John H. McCully, Kirkwood; Chas. Dixon, Marlton; W. A. Wescott, M.D., Berlin; S. H. Gardiner, Secretary, Ashland.

Six cases of scarlet fever, 1 of typhoid fever and 7 of small-pox were reported. Eight meetings were held.

Waterford Township.—MEMBERS AND OFFICERS—C. D. Heath, Berlin; Wm. L. Walker, Waterford; Wm. N. Haines, Berlin; H. N. Gillon, Secretary, Berlin; Dr. F. O. Stem, Inspector, Berlin.

Three cases of scarlet fever occurred. Four meetings were held.

Winslow Township.—MEMBERS AND OFFICERS—Joseph G. Strock, Cedar Brook; Joseph R. Imhoff, Winslow; Chas. Jessup, Waterford; M. G. Burdsall, Secretary, Tansboro.

Two cases of small-pox were reported. Two meetings were held.

Wood Lynne Borough.—MEMBERS AND OFFICERS—Oscar B. Test, R. A. Rockhill, S. A. Smith, L. S. Ware; Chas. Cogswell, Secretary; James Firth, Inspector.

Estimated population, 130. Forty-seven dwellings are connected with the public water-supply and 31 premises are connected with sewers. Two nuisances were abated. Fourteen meetings were held.

CAPE MAY COUNTY.

Anglesea Borough.—MEMBERS AND OFFICERS—E. E. Hewitt, Adolph Anderson, W. E. Young; Geo. W. Dougherty, Secretary; Hon. H. H. Voorhees, Solicitor, Wildwood.

Avalon Borough.—No organized board of health. Rodney Van Gilder, Borough Clerk.

Cape May City.—MEMBERS AND OFFICERS—Robert S. Hand, Lafayette M. Hall, Albert B. Little, George L. Lovett; Lewis T. Stevens, Secretary; John W. Thompson, Registrar; Alonzo L. Leach, Inspector.

Estimated population, 2,300. One case of diphtheria occurred. Twenty nuisances were abated. Fifteen meetings were held.

Holly Beach Borough.—MEMBERS AND OFFICERS—Elias W. Lea, John Bright; Lorenzo C. Johnson, Secretary; Jesse D. Mathews, Inspector.

Estimated population, 800. Three cases of diphtheria and 6 of scarlet fever occurred. Number of dwellings connected with public water-supply, 200. Complaints investigated, 100, and 25 nuisances were abated. Fifteen meetings were held.

Lower Township.—MEMBERS AND OFFICERS—George Dickinson, Erma; Aaron Woolson, Fishing Creek; Daniel Schellenger, Erma; W. A. Lake, M.D., Cold Spring; C. C. Reeves, Secretary, Eldredge; Amasa B. Walter.

One case of typhoid fever was reported. Six meetings were held.

Middle Township.—MEMBERS AND OFFICERS—V. N. Erricson, Dias Creek; Luther M. Swain, Swainton; Luther T. Garretson, Cape May Court House; J. Morgan Dix, M.D., Cape May Court House; Stillwell H. Townsend, Secretary, Cape May Court House.

Five nuisances were abated. Two meetings were held.

Ocean City.—MEMBERS AND OFFICERS—Dr. F. C. Hutchinson, Dr. N. H. Burt, Dr. C. E. Edwards; T. Lee Adams, Secretary; Frank Dare, Inspector.

Estimated population, 1,800. One case of typhoid fever occurred. Total number of dwellings connected with the public water-supply, 900. The yearly expenditure for the collection and

CAPE MAY COUNTY—*Continued.*

disposal of garbage was \$2,200. Number of complaints investigated, 34. Number of nuisances abated, 13. Monthly meetings are held.

Upper Township.—MEMBERS AND OFFICERS—Anthony B. Smith, Beesley's Point; Belford Smith, Tuckahoe; Washington Van Gilder, Petersburg; Jesse T. Young, Secretary, Beesley's Point; R. Fendall Smith, Registrar, Marmora; Dr. Randolph Marshall, Inspector, Tuckahoe.

Two meetings were held.

West Cape May Borough.—MEMBERS AND OFFICERS—Thomas Hughes, Samuel Taylor, John Hughes, Daniel Crowell, A. G. Stevens, M.D., Secretary; Theodore Reeves, Registrar. All of Eldredge.

Three nuisances were abated. There are 98 unvaccinated children in the schools. Four meetings were held.

Wildwood Borough.—MEMBERS AND OFFICERS—G. J. R. Miller, John N. Reeve, Jed DuBois, Clarence Eldrige; Wm. R. Cills, Secretary; W. H. Washburn, Inspector.

Estimated population, 500. One case of typhoid fever was reported. One hundred and ninety dwellings are connected with the public water-supply and 20 premises are connected with the sewer system. Number of nuisances abated, 10. Ten meetings were held.

CUMBERLAND COUNTY.

Bridgeton City.—MEMBERS AND OFFICERS—Ellsmore Stites, M.D., J. C. Applegate, M.D., J. G. Streets, M.D., Alfred Cornwell, M.D., W. H. Ballenger; John H. Moore, M.D., Secretary; F. L. Hewett, Registrar; Chas. E. Bellows, Health Inspector; Jesse C. Davis, Plumbing Inspector.

Estimated population, 14,300. Communicable diseases were reported as follows: Diphtheria, 4; scarlet fever, 13; typhoid fever, 21; small-pox, 1. Total number of dwellings connected with public water-supply, 2,695. Number of nuisances, 129. The secretary of the board states in a supplementary report that

CUMBERLAND COUNTY—*Continued.*

the cases of typhoid fever were carefully traced, and the conclusion was reached that in nearly every instance the disease was contracted outside of the city. Fifteen meetings were held.

Commercial Township.—MEMBERS AND OFFICERS—C. M. Robbins, Port Norris; C. W. Hand, Port Norris; R. L. Sharp, Haleyville; S. T. Day, M.D., Port Norris; E. J. Cook, Registrar, Port Norris.

Two nuisances were abated. Three meetings were held.

Deerfield Township.—MEMBERS AND OFFICERS—Samuel M. Fox, Finley Station; Wm. H. Vanleer, Jr., Deerfield Street; Chas. C. Phillips, M.D., Secretary, Deerfield Street; Elijah R. Parvin, Registrar, Deerfield Street; Chauncey A. Kilborn, Inspector, Rosenhayn.

One case of diphtheria occurred. Six meetings were held.

Downe Township.—MEMBERS AND OFFICERS—John W. Page, Newport; Luther Bateman, Newport; John P. Joslin, Newport; James M. Bateman, Secretary, Dividing Creek; Dr. Silas Robinson, Inspector, Newport.

One case of small-pox and two cases of diphtheria were reported. Nine meetings were held.

Fairfield Township.—MEMBERS AND OFFICERS—Wm. H. C. Taylor, Edward Bowe, E. C. Swing; E. H. Whitticar, Secretary; James B. Mulford, Registrar; Fred. Wainwright, M.D., Inspector. All of Fairton.

One nuisance was abated. One meeting was held.

Greenwich Township.—MEMBERS AND OFFICERS—Wm. H. Glaspey, Greenwich; Geo. L. Watson, Othello; Dr. S. M. Snyder, Greenwich; J. W. Butler, Secretary, Othello; Samuel M. Watson, Inspector, Greenwich.

One meeting was held.

Hopewell Township.—MEMBERS AND OFFICERS—E. G. Ayars, Seeley; D. D. Davis, Shiloh; E. D. Perry, Bridgeton; Walter L. Minch, Secretary, Shiloh.

One meeting was held.

Landis Township.—MEMBERS AND OFFICERS—O. H. Adams, M.D., Vineland; George Ozias, Vineland; Wm. Hollwarth, Vineland; Stephen Crane, Willow Grove; H. M. Dolbey, Secretary, Vineland.

CUMBERLAND COUNTY—*Continued.*

Communicable diseases were reported as follows: Diphtheria, 3; scarlet fever, 23; typhoid fever, 25. Two nuisances were abated. One case of glanders was reported. Four meetings were held.

Lawrence Township.—MEMBERS AND OFFICERS—E. L. Mulford, D. W. Sheppard, H. O. Newcomb, W. P. Glandan; Henry S. Long, Secretary. Cedarville; F. B. Sheppard, Registrar.

Three meetings were held.

Maurice River Township.—MEMBERS AND OFFICERS—Chas. Grossman, Port Elizabeth; Chas. Champion, Dorchester; Horace P. Bickley, Delmont; Henry Reeves, Jr., Secretary, Leesburg; Dr. J. Howard Willetta, Inspector, Port Elizabeth.

Two meetings were held.

Millville City.—MEMBERS AND OFFICERS—Silas C. Smith, Edwin Conover, Richard B. Radcliffe, Wm. T. Champion; L. H. Hogate, Secretary; Frank Bullock, Inspector; J. W. Wade, M.D., Inspector.

Estimated population, 10,700. Communicable diseases were reported as follows: Diphtheria, 5; scarlet fever, 206; typhoid fever, 16. Total number of dwellings connected with public water-supply, 780. Twenty-five nuisances were abated. Six meetings were held.

Stow Creek Township.—MEMBERS AND OFFICERS—H. E. Hoffman, Bridgeton; Chas. D. Fogg, Bridgeton; Lewis Willis, Bridgeton; R. A. Fogg, Secretary, Shiloh.

About one-third of the school children are unvaccinated. Three meetings were held.

Vineland Borough.—MEMBERS AND OFFICERS—Robert Pond, Thos. Harkins, J. W. Tomlinson, Paul Ruestle; J. H. Prince, Secretary; N. P. Marvel, Sanitary Inspector; Chas. Sinley, Plumbing Inspector.

Estimated population, 4,400. Communicable diseases were reported as follows: Diphtheria, 5; scarlet fever, 47; typhoid fever, 5. Number of dwellings connected with public water-mains, 760. Seven nuisances were abated. Sixteen meetings were held.

ESSEX COUNTY.

Belleville Township.—MEMBERS AND OFFICERS—Edward O. Cyphers, M.D., James Boylan, Thos. Breen, Peter D. Ackerman; John Honan, Secretary; Wm. Connelly, Registrar; Alfred J. Gilby, Inspector; Martin Flanagan, Inspector. All of Belleville.

Estimated population, 6,000. Communicable diseases were reported as follows: Diphtheria, 19; scarlet fever, 6; typhoid fever, 3; small-pox, 7. Garbage is collected by contract and \$500 is expended each year for this purpose. Complaints investigated during the year, 55. Nuisances abated, 48. One case of glanders was reported. All school children were vaccinated during the year. Free vaccination was offered to persons unable to pay. Twenty meetings were held.

Caldwell Borough.—MEMBERS AND OFFICERS—James Best, Dr. E. E. Peck, W. W. Wright, Lambert Speer; Isaac E. Baldwin, Secretary; J. J. Van Order, Registrar; Edward Jackson, Inspector.

Estimated population, 1,400. Two cases of diphtheria and 2 of scarlet fever were reported. Two cases of glanders in horses were reported to the board. Two meetings were held.

Caldwell Township.—MEMBERS AND OFFICERS—E. E. Peck, M.D., J. W. Debann, Marcus Crane, Joel W. Harrison; Theodore Vincent, Secretary. All of Caldwell.

One case of scarlet fever and 5 cases of small-pox were reported. Four meetings were held.

East Orange.—MEMBERS AND OFFICERS—E. M. Brewster, Roger H. Butterworth, Chas. M. Matthews, Warren S. Furman, Harvey Mott; Dr. T. N. Gray, Secretary; S. M. Long, Registrar; Wm. T. Bowman, Inspector.

Estimated population, 25,000. Communicable diseases were reported as follows: Diphtheria, 42; scarlet fever, 13; typhoid fever, 29; small-pox, 35. The city is provided with an isolation hospital. Total number of dwellings connected with the public water-supply, 4,470. The city expends \$6,000 yearly in the collection and disposal of garbage. Number of complaints investigated, 142. Number of nuisances abated, 94. One case of glanders in horses was reported to the board. Twenty-eight meetings were held.

ESSEX COUNTY—*Continued.*

Glen Ridge Borough.—MEMBERS AND OFFICERS—Dr. H. C. Harris, F. C. Ostenhout, Thos. G. Smith; H. K. Benson, Secretary; A. H. Olmstead, Plumbing Inspector, Bloomfield.

Estimated population, 2,350. Communicable diseases were reported as follows: Diphtheria, 3; scarlet fever, 7; typhoid fever, 1; small-pox, 4. Twenty-three premises were connected with sewers during the year. Two nuisances were abated. Thirteen meetings were held.

Town of Irvington.—MEMBERS AND OFFICERS—Albert Webb, Irvington; Mr. Bongas, Manhattan Park; Hugo Winkler, Manhattan Park; Mr. Clickenger, Manhattan Park; Jonah Hardgrove, Manhattan Park; Edwin Berry, Secretary, Irvington; P. W. Lawrence, Inspector, Irvington.

Estimated population, 5,600. Communicable diseases were reported as follows: Diphtheria, 8; scarlet fever, 10; typhoid fever, 4; small-pox, 14. Total number of dwellings connected with public water-mains, 700. Twenty-five nuisances were abated. Gratuitous vaccination was offered to the public during the year. Eighteen meetings were held.

Livingston Township.—MEMBERS AND OFFICERS—Wm. W. De Camp, Roseland; P. T. Collins, Livingston; John H. Parkhurst, Livingston; David Flynn, Secretary, Livingston.

One case of diphtheria was reported. Three nuisances were abated. Five meetings were held.

Millburn Township.—MEMBERS AND OFFICERS—Chas. W. Cox, Millburn; Reuben G. Marsh, Millburn; Wellington Campbell, Short Hills; J. M. Drake, Secretary, Millburn; Abram S. Magee, Inspector, Millburn.

Communicable diseases were reported as follows: Diphtheria, 5; typhoid fever, 7; small-pox, 6. Fifteen meetings were held.

Montclair City.—MEMBERS AND OFFICERS—Chas. D. Thompson, Moses N. Baker, James Brown, M.D., Raymond B. Smith, D.V.S.; Richard P. Francis, M.D., Secretary; Horatio N. Parker, Health Officer; John O'Brien, Jr., Assistant Inspector; John C. Clark, Jr., Inspector; Edwin B. Goodell, Attorney.

Estimated population, 15,500. Communicable diseases were reported as follows: Diphtheria, 62; scarlet fever, 12; typhoid

ESSEX COUNTY—*Continued.*

fever, 24; small-pox, 7. The sewer mains have been extended about four miles during the year. Garbage is collected and removed under the supervision of the local board of health. Regular inspection of dairies and milk depots is made. One case of glanders and one of cow-pox were reported. Nine suits were brought for violation of ordinances, and in each case the judgment was in favor of the local board of health. Five hundred and fifty vaccinations were performed during the year. Twenty-four meetings were held. The board of health of the town of Montclair reports as follows:

The work done by the board during the year has been mainly routine in character. Fortunately there have been no epidemics nor other serious troubles to call for special meetings and increased vigilance. Several cases of small-pox have appeared from time to time, and these have been promptly quarantined, either in their own homes or in the isolation hospital. There have been no secondary cases, except those in the families of patients, where they were not unexpected. In January, 1902, the board, following the precedent established in former years, authorized the free vaccination of children in the public and parochial schools. Some 300 children were vaccinated at this time. The expenses incurred for the prevention and care of small-pox during the year are shown (in part) in the report of the treasurer and are much less than those of some of the neighboring towns. The purchase of the isolation hospital, where small-pox patients can be properly quarantined and treated, has proved a most wise and economical measure. The question of establishing a public isolation hospital for all kinds of communicable diseases has again been agitated but nothing material has been accomplished. Of contagious diseases other than small-pox there have been comparatively few cases, and at no time has any special action on the part of the board been necessary. During the summer of 1901, the destruction of mosquito larvæ by the use of crude petroleum on the ponds, pools and sluggish streams in the town was begun. The work was started too late to be of material benefit, but the results obtained were sufficiently encouraging to induce the board to resume the use of oil early in the spring of 1902, with what results it is, as yet, too early to state.

During the night of January 26th, 1902, the rooms of the board and most of their contents were destroyed by fire. Fortunately the property of the board was insured for \$1,000, and with this most of what was lost has been replaced. There were, however, many valuable records destroyed which cannot be duplicated, and their loss is much deplored. These included (1) plumbing inspection, (2) house-to-house inspection, (3) data of the contagious diseases that had been in the town, (4) a list of nuisances, (5) milk analyses, (6) sewer connections, (7) all copies of notices, (8) all communications up to June 1st, 1901. Since moving into its present quarters in the Crawford Building the board has purchased a large safe that will hold all of its documents.

The Inspector has, during the year, investigated the system of ventilation in the various public school buildings. The reports on these have been forwarded to the Board of Education.

ESSEX COUNTY—*Continued.*

The treasurer of the board reports as follows:

For the year ending June 1st, 1902.

<i>Dr.</i>		
June 1st, 1901, on hand.....		\$10 61
Appropriation for general expenses.....	\$4,000 00	
Appropriation for Ducker, portable hospital	500 00	
Appropriation for small-pox expenses, August 26th, 1901,	1,173 57	
		<hr/> 5,733 57
Office receipts—		
Plumbing permits	\$444 00	
Plumbing test	2 00	
Licenses to scavengers	15 00	
Sale of disinfectants.....	3 13	
Use of telephone	25	
Fine	2 00	
Money repaid	1 00	
		<hr/> 467 38
From W. G. Snow, for small-pox case.....	\$115 22	
From J. R. Williams, for small-pox case.....	155 00	
From Van Riper, for small-pox case.....	140 00	
		<hr/> 410 22
Fire insurance (less 1 per cent.)		990 00
		<hr/> \$7,611 78
<i>Cr.</i>		
Salary of Health Inspector.....	\$1,500 00	
Salary of Associate Health Inspector.....	280 00	
Salary of Assistant Health Inspector.....	393 00	
Salary of Attorney	200 00	
Salary of Chemist (for year 1900-01).....	250 00	
		<hr/> \$2,623 00
Office expenses—		
Rent	\$295 00	
Stationery and postage	56 60	
Telephone	12 95	
Gas	13 21	
Laboratory	13 17	
Fire insurance policies	23 65	
Freight and express	11 15	
Typewriter	40 00	
Repairs	10 50	
Safe	75 00	
Incidentals	18 51	
		<hr/> 569 76

ESSEX COUNTY—*Continued.*

Contagious diseases—

Disinfectants	\$184 92	
Goods destroyed	16 00	
Culture tubes and boxes	18 05	
Cultures examined by Newark Board of Health.....	2 00	
Antitoxine	10 49	
Paid Mountainside Hospital for board.....	36 00	
Ducker, portable isolation hospital.....	471 44	
Small-pox, 1900-1901	1,119 88	
Small-pox, 1901-1902	1,140 08	
		2,998 86

Miscellaneous printing and advertising.....	\$53 70	
Printing annual report.....	126 50	
		180 20

Horse and carriage hire.....	\$88 90	
Car fare	49 42	
		138 32

Registrar of Vital Statistics.....	\$63 40	
"Mosquito" oil	10 38	
Burying dead animals	17 00	
Special well-water analysis	15 00	
Plumbing tests	12 05	
Dairy inspection	5 00	
Cesspool cleaned	6 00	
Fire account	889 97	
Incidentals	79 09	
		1,098 89

\$7,608 03

On hand June 1st, 1902.....	3 75
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\$7,611 78

The health inspector writes as follows:

The work of covering ponds and pools of water with petroleum was resumed at an early date in the spring of 1902. The number of ponds and pools treated varies with the amount of precipitation, some of them becoming dry after a few days of warm, pleasant weather; others are perennial, but do not cover a great amount of space.

The following is a list of ponds which have been treated during the wet seasons:

Perennial pond, on the west side of Virginia avenue, between Harrison avenue and High street; size at flood height about 7,500 square feet.

"Cat swamp" is a pond west of Harrison avenue and some distance south of Llewellyn road; area at flood height, 1,600 square feet. This pond was formerly perennial and of considerably larger size, but two years ago was drained so that the water rises only a few inches, and in times of drought becomes entirely dry.

ESSEX COUNTY—*Continued.*

Another small pond, having an area of about 400 square feet, a little north of Cat swamp, requires treatment during wet seasons.

On the northeast corner of Claremont and Greenwood avenues there occurs an accumulation of water, which remains only a few weeks, but which, during its existence, is an excellent breeding place for mosquitoes.

Another pool of water rises across Park place during wet seasons and survives a continued drought for a surprisingly long period. It has an area of 2,100 square feet and lies directly across the road.

At the end of Park street, corner of Mount Hebron road, is the largest pond within the limits of Montclair. It is raised by a dam eight to ten feet in height, built across the bed of the brook which runs through the property. This pond can hardly be considered quiet water, yet along the edges there is not enough movement to prevent the growth of mosquito larvæ.

On the north side of Lorraine avenue, east of Park street, there is a perennial pond on the property of Mrs. Mary Baldwin, fed by springs and a small drainage area, and having no outlet. This is probably the most prolific breeding place for mosquitoes in Montclair. The property has been highly improved and the pond is now used for scenic purposes. It could, however, be easily drained and steps should be taken to accomplish this end.

A small pond is maintained by Mr. Samuel Hubbard upon his property on Upper Mountain avenue, north of Bellevue avenue. This is also raised by a dam built across a small stream supplied by a running spring. The water is kept clear and the bed of the pond very clean, and it is stocked with trout. It is unlikely that any breeding of mosquitoes takes place here, as the trout undoubtedly exterminate the larvæ as soon as they are developed. At all events no treatment can be given to this pond on account of the law which protects fish preserves.

There is another pond in Erwin Park, raised by a dam across Toney's brook, upon the property of Mr. Peter Roberts. This pond, around its edges, has considerable quiet water and needs thorough treatment.

However effective may be the oil treatment there is no doubt that the preferable method is draining, and this should be carried out everywhere possible, and in the majority of cases such work would be highly effective. There is, indeed, little excuse for the existence of pools of water in Montclair, for, in a short time, and if proper means were taken to secure co-operation upon the part of property owners, the mosquito question in Montclair would become an unimportant one.

* * * * *

The supervision which has been carried on during the past years over the dairies supplying Montclair has been continued during the year just closed. In many cases there have been decided improvements, while the products, which have in former years been uniformly acceptable, have maintained their previous character. Analyses of the dairy products have been made periodically, but the records up to January 30th have been lost by fire. It has been impossible, since that time, to make a sufficient number of analyses to produce a complete record, but those which have been made are representative of the preceding results and indicate fairly the character of the supply in each case.

ESSEX COUNTY—Continued.

Newark City.—MEMBERS AND OFFICERS—Dr. H. C. H. Herold, M. Straus, J. A. Furman, Matthew T. Gay, Dr. C. M. Zeh, Dr. D. L. Wallace, Dr. F. W. Becker, Dr. W. S. Disbrow, C. Edgar Sutphin, Joshua Brierley; David D. Chandler, Health Officer.

Estimated population, 255,000. Communicable diseases were reported as follows: Diphtheria, 971; scarlet fever, 487; typhoid fever, 291; small-pox, 1,143. An isolation hospital is provided for the care of small-pox cases. Total number of dwellings connected with water-mains, 35,467. The expenditure for the collection and disposal of garbage for the year was \$70,500, and the total number of cubic yards of garbage removed was 270,000. Number of complaints investigated during the year ending October 31st, 1902, 2,288. Number of nuisances abated, 2,000. Twenty-four meetings were held.

North Caldwell Borough.—No organized board of health. Fred. L. Baldwin, Borough Clerk.

Nutley Borough.—MEMBERS AND OFFICERS—Geo. B. Philhower, M.D., Melvin Van Winkle, Lewis Day, F. Roy Goddard; Burton G. Saunders, Secretary; Henry M. Whitfield, Registrar; Ernest E. Faith, Inspector; Hugh B. Reed, Attorney, Newark.

Communicable diseases were reported as follows: Diphtheria, 20; scarlet fever, 14; typhoid fever, 6; small-pox, 6. The annual expenditure for the collection and removal of garbage was \$1,200. Six meetings were held. The annual report of the president of the local board of health is as follows:

In submitting this our first annual report, under the new form of town government, the board confesses to a sense of gratitude and pride that while serious epidemics of contagious diseases, particularly small-pox, have afflicted many of our neighboring cities and towns, we have enjoyed a year of unparalleled healthfulness. You will see from our tabulated report that although a few cases of diphtheria, scarlet fever and small-pox existed among us, they were of a mild type and caused no deaths. Our citizens are always on the alert and show a commendable disposition to assist their board in its efforts to check the spread of contagion, as well as maintaining a high sanitary standard at all times.

With the exception of one swamp on Bloomfield avenue, our low ground is very satisfactorily drained, thus lessening the sources of malaria and mosquitoes. The owners of the Bloomfield avenue swamp are taking the necessary steps to ditch and drain through their property to the Belleville line, and we hope

ESSEX COUNTY—*Continued.*

to persuade Belleville to carry the channel on from our boundary to an outlet on Third river. A new and better scavenger service, instituted last October, has operated to the great comfort and satisfaction of about one hundred householders, who employ the service, though the expense to them has been somewhat burdensome, as the number who employ a scavenger is only about one-seventh of our families. The present method is not adequate to meet the needs of seven hundred families and is not, therefore, satisfactory to our board. Before the end of another year we hope to have a public scavenger at a very moderate expense to the taxpayer. This will bring the collecting and disposal of garbage more particularly under the management of the health board, a condition much desired by our people.

On the 29th day of last October George Hawsworth, a clerk in Barr's grocery store, in Avondale, and also his little daughter, aged four years, sickened with sore throat, severe headache, high fever and vomiting, with a complete abatement of this group of symptoms in three days, when a shotty eruption appeared upon their foreheads. Small-pox was diagnosed and the entire family, consisting of five persons, three adults and two children, were promptly vaccinated. Thirteen days thereafter Mr. H's mother, aged sixty-three years, and his infant daughter, aged sixteen months, came down with the same symptoms. Mr. H's wife having been successfully vaccinated three times did not contract the disease, though she was confined in the two rooms with the patients for six weeks and nursed them all back to good health. The children not having been vaccinated, were intensely sick, while the father and grandmother both having been successfully vaccinated in early life—father twenty-seven years before, and the grandmother some sixty years before—had only a very slight eruption, as well as mild secondary symptoms throughout the run of the disease. An excellent augury of the protective power of vaccination.

This family, living in one of the most densely settled sections of our town, the neighbors being but twenty-five feet away on either side, presented to our board its first serious problem—how to maintain a safe and rigid quarantine? The premises, including the sidewalk in front of Mr. H's house, were roped off and a large and conspicuous placard was placed upon his house. Mr. Hawsworth being a poor man, our board made the unique, and, so far as we know, original proposition to him that if he would honestly maintain his own quarantine, he should receive each week an amount equal to his salary as clerk in the grocery store. This plan proved to be very effective, as there was no further outbreak of the disease, and in six weeks the quarantine was lifted, to the great relief of everybody.

In May of this year a suspicious case was reported of a little Italian girl, living in the Italian settlement in the western part of our district. Upon investigation the child was found to be suffering from a mild form of discrete small-pox, in the latter part of the first week of the disease, with all the other children in the settlement probably exposed. The board pursued precisely the same course as in the Hawsworth case and caused all of the children, some fifty in all, to be vaccinated. With the exception of one little girl, who had visited the sick child before the board took charge of affairs, not another case appeared in what seemed to be a very fertile field, it being a well-known fact that small-pox grows and develops most prolifically in dirt and unsanitary

ESSEX COUNTY—*Continued.*

conditions. The writer believes firmly that prompt and successful vaccination stamped it out. The total expense to our taxpayers for these six cases, which are herewith reported, was \$270.70, a record of which we feel justly proud.

Orange City.—MEMBERS AND OFFICERS—John T. Platt, A. Eichhorn, G. H. Richards, M.D., John Burke, John McGowan, James H. Brown, P. J. Hannagan; William Schluer, Secretary; D. A. Dugan, Registrar; S. D. Philpot, Plumbing Inspector; R. Savage, Sanitary Inspector; A. B. Seymour, Attorney.

Estimated population, 25,000. Communicable diseases were reported as follows: Diphtheria, 79; scarlet fever, 27; typhoid fever, 35; small-pox, 87. An isolation hospital is provided for the care of small-pox cases. The expenditure during the fiscal year for the collection and disposal of garbage, \$4,500. Number of complaints investigated during the year, 347. Number of nuisances abated, 289. Four cases of glanders were reported. Gratuitous vaccination was offered to the public during the year. Fourteen meetings were held.

South Orange Township.—MEMBERS AND OFFICERS—Richard H. Kernan, South Orange; Abel Mooney, South Orange; John H. Van Ness, Hilton; Thomas C. Baker, Secretary, Maplewood; W. W. Heberton, M.D., Inspector, South Orange; Joseph H. Osborn, Clerk, Hilton.

Communicable diseases were reported as follows: Diphtheria, 3; scarlet fever, 4; typhoid fever, 2; small-pox, 3. An isolation hospital has been erected on the Orange mountains. Five nuisances were abated.

South Orange Village.—MEMBERS AND OFFICERS—Mefford Runyon, M.D., Ira A. Kip, Jr., Francis Speir, Jr., Graham H. Brewer, Richard D. Freeman, M.D., H. A. Pulsford, M.D.; Allerton D. Hitch, Secretary; W. W. Herberton, M.D., Registrar.

Estimated population, 5,000. Communicable diseases were reported as follows: Diphtheria, 10; scarlet fever, 12; typhoid fever, 7; small-pox, 7. An isolation hospital has been erected on the Orange mountain. Total number of dwellings connected with public water-mains, 700. A sewer system will be installed during the year. The total cost for the collection and disposal of garbage during the year was \$1,368. Number of complaints

ESSEX COUNTY—*Continued.*

investigated, 28. Number of nuisances abated, 25. Medical inspection of schools has been instituted. But 1 per cent. of the school children are unvaccinated. Gratuitous vaccination was offered to the public by the board during the year. Seven meetings were held.

Vailsburg Borough.—MEMBERS AND OFFICERS—Edward A. Zusi, John F. Murphy, John V. Diefenthaler, Dr. W. Dehnert; Robert A. Glover, Secretary; Wm. Billington, Registrar; Dr. P. B. Davenport, Health Inspector; Andrew Lientz, Assistant Health Inspector; Herman Rodemacher, Sanitary Inspector.

Estimated population, 3,000. Communicable diseases were reported as follows: Diphtheria, 23; scarlet fever, 1; small-pox, 4. Total number of dwellings connected with public water-mains, 345. The total cost for the year for the collection and disposal of garbage was \$121.91. Twenty nuisances were abated. Free vaccination has been offered to the public. Twenty-seven meetings were held.

West Orange Township.—MEMBERS AND OFFICERS—Joseph B. F. Grady, Joseph Fleming; Dittlow Schroll, Jr., Secretary; Benjamin L. Williams, Registrar; Dr. J. M. Maghee, Inspector.

Communicable diseases were reported as follows: Diphtheria, 19; scarlet fever, 8; typhoid fever, 7; small-pox, 14. Total number of dwellings connected with public water-supply, 625. A new sewer system is being constructed. Number of nuisances abated, 175. Twenty-one meetings were held.

GLOUCESTER COUNTY.

Deptford Township.—MEMBERS AND OFFICERS—Benjamin F. Haines, Westville; Adon W. Muller, Almonesson;; Joseph Noblit, Wenonah; Wm. C. Cattell, Secretary, Wenonah; Dr. H. A. Stout, Inspector, Wenonah.

Communicable diseases were reported as follows: Diphtheria, 3; scarlet fever, 5; typhoid fever, 1.

East Greenwich Township.—MEMBERS AND OFFICERS—John C. Heritage, Mickleton; Henry L. Haines, Clarksboro; Daniel Recker, Clarksboro; Chas. Haines, M.D., Clarksboro; Walter Heritage, Secretary, Swedesboro.

Twelve cases of typhoid fever and one of membranous croup were reported. The cases of typhoid fever were traced to an infected well. Four meetings were held.

Franklin Township.—MEMBERS AND OFFICERS—Dr. A. A. Smith, Malaga; A. B. Richman, Malaga; Samuel Lowder, Newfield; Chas. Trimwell, Plainville; H. C. Richman, Secretary, Malaga.

Six cases of typhoid fever occurred during the year. One-half of the school children in this district are unvaccinated. One meeting was held.

Glassboro Township.—MEMBERS AND OFFICERS—Dr. C. S. Heritage, Glassboro; Josiah Shute, Pitman Grove; Simon S. Duffield, Glassboro; David Paulin, Secretary, Glassboro; Edward Munyun, Inspector, Glassboro.

Three cases of diphtheria and 5 of typhoid fever occurred. Number of complaints investigated during the year, 200. Number of unvaccinated school children, 250. Five meetings were held.

Greenwich Township.—MEMBERS AND OFFICERS—Wm. Duncan, Gibbstown; W. Scott Thomson, Paulsboro; Chas. Salisbury, Paulsboro; Jacob Ballinger, Secretary, Paulsboro; Geo. C. Laws, M.D., Inspector, Paulsboro.

Twelve cases of diphtheria occurred. Eight complaints were investigated, and 3 nuisances were abated. One meeting was held.

GLOUCESTER COUNTY—*Continued.*

Harrison Township.—MEMBERS AND OFFICERS—Samuel Stratton, Mullica Hill; N. S. Lloyd, Mullica Hill; Albert Murphy, Richwood; L. F. Ashcroft, M.D., Mullica Hill; Eli Heritage, Secretary, Richwood.

Three meetings were held.

Logan Township.—MEMBERS AND OFFICERS—Isaac Derrickson, John D. Norton, Hugh McGleney; S. B. Platt, Secretary, Bridgeport; E. T. Oliphant, M.D., Inspector.

Seventy-five per cent. of the school children are unvaccinated. Four meetings were held.

Mantua Township.—MEMBERS AND OFFICERS—George Morey, Barnsboro; John Kincaid, Barnsboro; Harry Denn, Mantua; Geo. B. Hurff, Secretary, Sewell; L. N. Slaughter, M.D., Inspector, Pitman.

Five meetings were held.

Monroe Township.—MEMBERS AND OFFICERS—L. M. Halsey, M.D., James M. Tweed, H. B. Garwood, Mathias M. Chew; Clayton B. Tice, Secretary, Williamstown.

Two meetings were held.

South Harrison Township.—MEMBERS AND OFFICERS—Frank Kirby, Alfred Lippincott, Wm. Hudson, David C. Lippincott; S. F. Stanger, M.D., Secretary. All of Harrisonville.

One case of typhoid fever was reported. One nuisance was abated. Three meetings were held.

Swedesboro Borough.—MEMBERS AND OFFICERS—Nathan H. Warrington, Jerome M. Young, Harry Mayhew; Wm. H. Rieger, Secretary; Wesley G. Simmons, M.D., Inspector.

Estimated population, 1,400. About 50 dwellings are connected with the public water-supply. Six nuisances were abated. Six meetings were held.

Washington Township.—MEMBERS AND OFFICERS—John E. Williams, Turnersville; John Pease, Crosskeys; Samuel C. Locke, Hurffville; C. B. Phillips, M.D., Hurffville; C. D. Nicholson, Secretary, Turnersville.

Five cases of typhoid fever occurred. Two meetings were held.

GLOUCESTER COUNTY—*Continued.*

Wenonah Borough.—MEMBERS AND OFFICERS—Wm. J. Dawson, Dr. Chas. Lorence, J. K. Schultz; Jesse W. English, Secretary; Dr. Harry A. Stout, Medical Inspector.

Estimated population, 540. Two nuisances were abated. Three meetings were held.

West Deptford Township.—MEMBERS AND OFFICERS—Joseph A. Moore, Woodbury; R. M. Plum, Westville; Elmer E. Clement, Thorofare; Dr. James Hunter, Thorofare; James Carter, Secretary, Thorofare.

Communicable diseases were reported as follows: Diphtheria, 6; scarlet fever, 2; typhoid fever, 2; small-pox, 1. Four nuisances were abated. Eleven meetings were held.

Woodbury City.—MEMBERS AND OFFICERS—Wm. M. Carter, Dr. H. A. Wilson, Dr. H. B. Diverty, Dr. W. C. Williams, Warner Underwood; Arthur Starr, Secretary; Joshua Dawson, Inspector.

Estimated population, 4,200. Communicable diseases were reported as follows: Diphtheria, 3; scarlet fever, 4; typhoid fever, 6. Total number of dwellings connected with public water-supply, 875. Six nuisances were abated. Fourteen meetings were held.

HUDSON COUNTY.

Hudson County.—MEMBERS AND OFFICERS—Dr. John E. West, Dr. John Connell, Dr. C. B. Converse; C. J. Rooney, Jr., Clerk. All of Jersey City.

Communicable diseases have been reported to this board as follows: Diphtheria, 669; membranous croup, 91; scarlet fever, 1,073; typhoid fever, 71; small-pox, 1,072. The above figures include returns from various portions of Hudson county. All cases of small-pox are sent to the hospital at Snake Hill. A number of cases of glanders have occurred. Twenty-four meetings were held.

HUDSON COUNTY—*Continued.*

Bayonne City.—MEMBERS AND OFFICERS—Egbert Seymour, Patrick Flanigan, Henry Meigs, Thos. B. Mettam, Vedder Van Dyck, Dr. L. F. Donohoe, James Forest; A. C. Forman, M.D., Inspector; J. H. Nevins, Deputy Inspector; H. S. Winterhalter, Sanitary Inspector; E. F. Carbin, Secretary.

The city was incorporated in 1869. Population in 1860, 1,500; population in 1880, 9,400; population in 1900, 32,300; estimated population in 1902, 38,500; area, 4 1-10 square miles. Communicable diseases were reported as follows: Diphtheria, 97; scarlet fever, 63; typhoid fever, 16; small-pox, 75. Total number dwellings connected with water-mains, 3,200, about 200 of which were connected during past year. Premises connected with sewer during the year, 2,150. Garbage is collected by the city twice each week at a cost of \$6,000 a year. Complaints investigated, 468, and 425 nuisances were abated. Free vaccination was offered two days in each week. Monthly meetings were held.

Town of Harrison.—MEMBERS AND OFFICERS—Dr. Bernard A. Daly, John T. Malone, Nathaniel Comey, John J. Daly; John J. Scannell, Secretary; Chas. W. Rothe, Registrar; John T. McClure, Inspector.

Estimated population, 11,000. Communicable diseases were reported as follows: Diphtheria, 65; scarlet fever, 32; typhoid fever, 1; small-pox, 37. There are 1,063 dwellings connected with the public water-mains. During the past fiscal year the city expended \$1,400 for the collection and disposal of garbage. Number of nuisances abated, 482. One case of glanders occurred. Gratuitous vaccination was offered to the public during the year. Fourteen meetings were held.

Hoboken City.—MEMBERS AND OFFICERS—S. A. Helfer, M.D., G. M. Sinclair, John Podesta, Millard F. Jackson, August Grassmann; Joseph Tucker, Secretary; John H. Kipp, Health Inspector; J. A. Marnell, Jr., Plumbing Inspector; W. J. Kudlich, Health Warden; E. A. S. Lewis, Attorney.

Estimated population, 63,000. Communicable diseases were reported as follows: Diphtheria, 133; scarlet fever, 212; typhoid fever, 29; small-pox, 81. Number of dwellings con-

HUDSON COUNTY—*Continued.*

nected with water-mains, 4,700. The city expended during the fiscal year \$5,000 for the collection and disposal of garbage. Number of complaints investigated, 450. Number of nuisances abated, 417. Eighteen cases of glanders were reported. Twenty-four meetings were held.

Jersey City.—MEMBERS AND OFFICERS—In this city the police commissioners constitute the Board of Health.

The health inspector writes as follows:

I herewith respectfully submit my annual report for the year ending November 26th, 1902, being a resume of the sanitary work done, and the receipts and expenditures of this department during the past twelve months, as shown in the tabulated statements attached, and submitting such matters and recommendations thereon as will, in my opinion, result in better sanitary conditions.

The total receipts from November 26th, 1901, to November 26th, 1902, was twelve thousand and eighty-four dollars and sixteen cents (\$12,084.16).

The total expenses from November 26th, 1901, to November 26th, 1902, was eleven thousand nine hundred and four dollars and ninety-nine cents (\$11,904.99).

The total number of complaints received during the year was 13,780.

The total number of abatements secured on these complaints was 8,708, and many of the remainder have since been or will shortly be abated.

The total number of notices sent to abate nuisances, &c., was 21,553.

The total number of contagious diseases reported was 2,956. There has been no large increase in the number of cases of any particular disease reported during the year excepting small-pox, which, however, never assumed the proportions of an epidemic nor got beyond control; owing largely to the extensive and compulsory vaccinations insisted upon whenever the disease was found, together with a rigorous quarantine of infected premises, together with general vaccination of employes in all large factories and the children of our public and parochial schools, the disease is now practically at a standstill.

In this work we have had the support of the board of education, and the superintendent, principals and teachers, as well as the Catholic clergy and sisters, who have been a great help to the board of health and have saved the health officers no little trouble, and I feel very grateful to them for their kind assistance and take this opportunity of thanking them. The result of these precautions will, I firmly believe, prevent any serious spread of the disease and materially lessen the number of cases during the coming winter (1902-1903). The quarantine rules and regulations have, with a few exceptions, been very well observed, though indeed in many cases their enforcement has apparently worked great hardship on the unfortunate family, but I have extended no favors and acted in every case according to my best judgment, for the protection of the public health rather than the convenience or advantage of the individuals.

General inspections of premises have been made under my orders as well as citizens' complaints, the total number being 15,210 during the year; in addition

HUDSON COUNTY—*Continued.*

to these house-to-house inspections, careful attention was paid to special complaints received by telephone and mail; each complaint so received has been carefully investigated and the necessary orders served for the abatement of the nuisance that gave rise to the complaint, and the officers' reports are filed and have become a part of our office records.

The total number of vessels which arrived in the port of Jersey City was 92; 930 premises were disinfected, 12,724 persons were vaccinated and 2,092 dead animals were removed. It was necessary to exclude 5,003 children from school on account of contagious diseases, and of this number 3,036 have been permitted to return to school. The total number of children attending our public schools is about 30,000, and at least 20,000 attending the parochial schools.

The enforcement of our plumbing code demonstrates the necessity of a thorough supervision of plumbing work by competent inspectors appointed for that purpose. At present we have but one inspector of plumbing to do this work, and the increasing activity in the building line will make it absolutely necessary to have at least one more; indeed were it not for the assistance of my sanitary officers at times, it would be impossible for one man to inspect all the work.

The plumbers of our city, as a rule, are observing the spirit as well as the letter of our plumbing ordinance and are helping to make it unsafe and unprofitable to do bad work, and it is gratifying to add that the local journeymen plumbers' union are demanding a strict enforcement of the plumbing code.

There are a few unscrupulous men in the plumbing business who do dishonest and unsanitary work every time they get an opportunity, but when found out the offenders are compelled to remedy the defective work or be prosecuted.

Improvements in the methods of construction show where our plumbing rules need amendment and revision in order to be up to date, and I would recommend that a bill be drawn making it a misdemeanor to do inferior and unsanitary work in violation of existing plumbing regulations, and also one to establish a "Plumbers' Board of Examiners" in the State, three members in each of the large cities and one or two in the smaller cities, to be composed of men of not less than ten years' experience in the plumbing business, and to serve without salary, and who shall be empowered to examine persons desiring to engage in the plumbing business as to their fitness and qualifications, and to issue licenses to those who qualify, making such persons legally entitled to do plumbing work and none others, the members of said board of examiners to be appointed by the governor on the recommendation of the mayors of cities, endorsed by the Master Plumbers' Association.

With such additions to existing laws it would be difficult, if not impossible, for incompetent and unscrupulous men to become licensed plumbers, and together with a revised plumbing code, will insure to the public health perfect sanitary conditions in the future, and unsanitary work would soon be a thing of the past.

HUDSON COUNTY—Continued.

SCHEDULE A—Continued.

PERMITS GRANTED AND RECEIPTS (JERSEY CITY).

	December, 1901.	January, 1902.	February, 1902.	March, 1902.	April, 1902.	May, 1902.	June, 1902.	July, 1902.	August, 1902.	September, 1902.	October, 1902.	November, 1902.	Totals for Year, by Items.
To collect fat and bones.....				1	11	4	4	3	4	1	10 00	1	1-1 yr. at \$5, 17 at \$10 —
" build privy vaults.....		1				1	1	\$15 00	\$20 00	\$5 00	5 00	1	15 at \$5 —
" kill chickens.....		\$5 00							10 00	2-1 yr. —	10 00	1	4 at \$10, \$75 00
" slaughter cattle.....					1	10 00	10 00	1	2	15 00	10 00	1	8-1 yr. at \$5
" lead cattle.....					10 00		1	10 00	20 00	20 00	10 00	1	5 at \$10 — \$55 00
" vaccinations.....	555 50	2,042	583	704	452	\$71 10	392	101	20	225	102	34	1 at 25c. — \$0 25
" vaccine to doctors.....	60	204 20	486	818	196	\$7 10	30 30	10 10	2 00	22 50	10 20	8 40	5,501 at 10c.
" anti-toxin.....	3 00	28 80	21 80	15 65	9 80	\$69 17 95	450	40	2 00	80	20	12 60	2,462 at 5c. —
" sulphur candles.....	2 50		4 bot.	1 bot.		2 bot.	21 50	2		1 50	1 00		7 bot. at \$1.45 —
" work permits.....	2 50	4 1 00	8 51	2 40		2 90				2	3		16 candles — \$3 16
" out-of-town privies.....		4 1 00	7 1 75	12 40	11			2		1	45		51 at 25c. — \$12 75
" checks Bayonne Board of Health.....	1	1 00		3 00	3 00	2 00	1	50		1 00	1		10 at \$1. — \$10 00
" checks West Hoboken Board of Health.....	100 00			3 00	3 00	1	200 00			1 00	150 00		3 checks for scow tickets, — \$450 00
" half sewage city scow.....						1							1 check for scow tickets, — \$27 00
" dumping in city scow.....	1				1	27 00	1	1	1	1		1	8 checks at \$23.50 — \$188 00
" telephone calls.....	23 50		1 15	Potatoes, 1 00	23 50	23 50	23 50	1	23 50	23 50		23 50	Decayed mat- ter condemned — \$71 00
				1					Lemons, 70 00				Personal bui. — \$71 00
				1 25									new — \$0 40

HUDSON COUNTY—Continued.

SCHEDULE A—Continued.
PERMITS GRANTED AND RECEIPTS (JERSEY CITY).

	December, 1901.	January, 1902.	February, 1902.	March, 1902.	April, 1902.	May, 1902.	June, 1902.	July, 1902.	August, 1902.	September, 1902.	October, 1902.	November, 1902.	Totals for Year, by Items.
To fumigating R. R. cars.					1 check, \$80 00	1 \$10 00							1 check — \$80 00
" license factory — wool pulling								24 \$6 00	14 \$3 50	6 \$1 50	5 \$1 25	4 \$1 00	1 at \$10 — \$10 00
" duplicate dog tags.								1					58 at 25c. — \$15 25
" fine 1st Criminal Court.								20 00					Cash, \$20 00
" removing dead animals.													Contract \$20 00
" plumbing, extensions.	27	27	18	35	76	62	59	45	41	58	52	60	560 at \$2. — \$1,120 00
" " new.	\$54 00 43	\$64 00 27	\$36 00 6	\$70 00 32	152 00 44	124 00 36	\$118 00 43	90 00 35	95 00 33	116 00 29	104 00 42	120 00 38	1 extra at \$3. — \$1,128 00
	215 00	138 00	30 00	160 00	220 00	180 00	221 00	175 00	190 00	148 00	210 00	190 00	418 at \$3. — \$1,254 00
													2 extra at \$3. — \$2,071 00
Totals by month.	\$535 00	\$474 50	\$255 81	\$612 15	\$1,896 50	\$1,304 46	\$2,026 95	\$1,318 35	\$1,259 50	\$856 55	\$383 90	\$723 00	
Grand total.													\$12,084 16

SCHEDULE B.

EXPENDITURES (JERSEY CITY).

	December, 1901.	January, 1902.	February, 1902.	March, 1902.	April, 1902.	May, 1902.	June, 1902.	July, 1902.	August, 1902.	September, 1902.	October, 1902.	November, 1902.	Grand Total.
Totals by month.	\$681 86	\$914 12	\$645 86	\$703 08	\$884 59	\$1,420 72	\$919 63	\$1,068 59	\$689 24	\$826 08	\$1,878 24	\$976 41	\$11,904 99

HUDSON COUNTY—Continued.

SCHEDULE C.

NUISANCES COMPLAINED OF (JERSEY CITY).

	December, 1901.	January, 1902.	February, 1902.	March, 1902.	April, 1902.	May, 1902.	June, 1902.	July, 1902.	August, 1902.	September, 1902.	October, 1902.	November, 1902.	Totals.
Privies.....	23	83	86	109	159	180	471	438	404	111	141	56	2,162
Waste water.....	12	7	12	301	305	205	90	70	97	16	30	9	1,154
Defective plumbing.....	18	19	18	601	606	506	71	138	25	25	27	16	2,070
Garbage.....	7	10	11	501	511	500	27	36	24	11	23	6	1,667
Cow stables.....	2	3	4	60	70	50	12	20	12	7	6	2	248
Yards.....	10	10	22	178	178	160	129	190	129	28	31	15	1,080
Sewer gas.....	2	5	4	110	113	190	13	16	10	4	7	3	477
Gutters.....	3	2	6	150	160	110	2	25	1	4	.....	15	478
Sewers.....	3	4	5	120	124	8	15	13	25	8	15	1	473
Receiving basins.....	5	3	6	.....	4	15	9	8	2	3	6	2	63
Cellars.....	9	6	13	208	200	180	119	140	76	17	31	15	1,014
Sunken lots.....	3	1	.....	50	57	40	17	28	23	16	18	2	255
Dogs.....	.....	.....	.....	.....	.....	.....	789	607	481	44	55	16	1,992
Chickens.....	.....	.....	.....	.....	.....	.....	258	183	186	11	18	7	658
Cows.....	.....	.....	.....	.....	.....	.....	17	18	8	1	.....	.....	84
Goats and pigs.....	.....	.....	.....	.....	.....	.....	13	32	12	.....	4	4	65
Pigeons.....	.....	.....	.....	.....	.....	.....	.....	.....	9	.....	.....	.....	9
Lodging houses.....	.....	.....	.....	.....	.....	.....	.....	12	1	.....	.....	.....	13
Totals.....	97	103	138	2,388	2,487	2,144	2,052	1,969	1,519	806	408	169	13,780
Grand total.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

SCHEDULE D.

ABATEMENTS SECURED (JERSEY CITY).

	December, 1901.	January, 1902.	February, 1902.	March, 1902.	April, 1902.	May, 1902.	June, 1902.	July, 1902.	August, 1902.	September, 1902.	October, 1902.	November, 1902.	Totals.
Privies.....	18	27	82	99	199	160	267	292	202	273	175	45	1,789
Waste water.....	7	5	10	10	110	155	58	50	15	45	47	9	521
Defective plumbing.....	10	15	13	100	100	800	58	100	9	20	49	24	788
Garbage.....	8	10	14	50	150	400	20	24	6	19	25	7	728
Cow stables.....	2	2	8	80	180	40	10	10	4	15	8	1	255
Yards.....	11	10	5	20	220	150	112	180	25	79	85	23	870
Sewer gas.....	1	1	4	100	100	160	10	16	2	4	13	1	412
Gutters.....	2	8	5	50	150	110	1	25	.....	5	5	.....	356
Sewers.....	3	3	4	120	8	7	8	18	4	11	14	.....	195
Receiving basins.....	5	3	6	.....	63	15	9	8	2	1	6	.....	118
Cellars.....	7	5	10	28	100	175	105	98	15	61	78	17	699
Sunken lots.....	1	.....	.....	15	15	35	12	10	.....	1	18	1	108
Dogs.....	.....	.....	.....	.....	.....	.....	458	262	185	206	245	85	1,586
Chickens.....	.....	.....	.....	.....	.....	.....	100	82	85	96	43	19	875
Cows.....	.....	.....	.....	.....	.....	.....	40	10	7	5	.....	.....	62
Goats and pigs.....	.....	.....	.....	.....	.....	.....	7	5	4	8	11	.....	80
Pigeons.....	.....	.....	.....	.....	.....	.....	.....	.....	4	1	.....	.....	5
Lodging houses.....	.....	.....	.....	.....	.....	.....	.....	10	1	.....	.....	.....	11
Totals.....	70	84	106	622	1,845	1,707	1,260	1,095	569	844	823	188	8,708
Grand total.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

HUDSON COUNTY—*Continued.*

SCHEDULE E.

NOTICES SENT TO ABATE NUISANCES (JERSEY CITY).

	December, 1901.	January, 1902.	February, 1902.	March, 1902.	April, 1902.	May, 1902.	June, 1902.	July, 1902.	August, 1902.	September, 1902.	October, 1902.	November, 1902.	Grand total.
Totals.....	128	147	110	2,461	5,000	5,951	2,169	2,064	2,085	791	549	148	21,558

SCHEDULE F.

NUMBER OF CONTAGIOUS DISEASES REPORTED (JERSEY CITY).

	December, 1901.	January, 1902.	February, 1902.	March, 1902.	April, 1902.	May, 1902.	June, 1902.	July, 1902.	August, 1902.	September, 1902.	October, 1902.	November, 1902.	Totals.
Diphtheria.....	66	69	58	31	40	46	50	30	19	44	41	42	536
Scarlet fever.....	84	81	78	66	161	161	102	40	15	24	23	24	859
Typhoid fever.....	2	4	1	1	.....	2	2	2	1	1	2	1	19
Measles.....	65	7	82	7	69	126	200	46	5	3	2	7	619
Membranous croup.....	15	82	7	43	8	4	2	.....	3	3	2	3	172
Small-pox.....	58	55	76	132	90	117	126	33	10	.....	4	.....	701
Tuberculosis.....	.....	.....	.....	1	.....	.....	.....	1	1	.....	.....	.....	4
Chicken-pox.....	.....	.....	.....	.....	.....	4	.....	.....	.....	.....	.....	1	5
Tetanus.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	.....	.....	1
Glanders*.....	1	2	.....	.....	.....	.....	2	1	11	.....	9	5	40
Totals.....	291	300	302	282	368	460	484	153	65	85	79	87	.....
Grand total.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	2,956

*In horses.

SCHEDULE H.

MISCELLANEOUS ITEMS (JERSEY CITY).

	December, 1901.	January, 1902.	February, 1902.	March, 1902.	April, 1902.	May, 1902.	June, 1902.	July, 1902.	August, 1902.	September, 1902.	October, 1902.	November, 1902.	Totals for year.
Vessels arrived.....	15	6	6	7	5	6	12	5	13	6	6	5	92
Premises disinfected.....	92	85	108	110	184	111	120	50	21	12	50	87	980
Persons vaccinated.....	565	1,588	690	774	473	5,000	2,000	581	89	225	516	313	12,724
Dead animals removed.....	88	128	151	186	120	163	211	166	275	262	226	167	2,092
Notices sent to exclude children.....	522	637	583	389	749	908	737	.....	.....	84	169	285	5,008
Notices sent to return children.....	258	305	346	284	496	588	417	.....	.....	18	215	109	3,086

HUDSON COUNTY—*Continued.*

Town of Kearny.—MEMBERS AND OFFICERS—Nevin Kennedy, Dr. Lightfoot, Dr. Clouse, David Reed, Ralph Bush; Joseph Smith, Secretary; Albert E. Geissler, Charles Burrows, Inspectors.

Estimated population, 13,000. Number of complaints investigated, 465. Number of nuisances abated, 176. Gratuitous vaccination was offered to the public during the year. Twenty-four meetings were held.

Secaucus Borough.—MEMBERS AND OFFICERS—John H. Post, George Lausecker, Albert Born; Frank Eckardt, Secretary; Sebastian Melsch, Inspector.

Estimated population, 1,500. Communicable diseases were reported as follows: Diphtheria, 5; small-pox, 3. Two nuisances were abated. Three cases of glanders were reported. Monthly meetings were held.

Town of West New York.—MEMBERS AND OFFICERS—Dr. J. C. Justin, John Oetjen, John D. Rover, Sr., John Hangley; Wm. A. Meckbach, Secretary.

Estimated population, 5,100. Number of nuisances abated, 29. Twenty-one meetings were held.

HUNTERDON COUNTY.

Alexandria Township.—MEMBERS AND OFFICERS—George Bloom, Little York; Daniel Case, Pittstown; Robert Rosenberry, Secretary, Little York; D. M. Carpenter, Inspector, Little York.

One case of diphtheria was reported. Inspection of the pupils attending public schools showed that 72 were unvaccinated. Gratuitous vaccination was offered. Two meetings were held.

Bethlehem Township.—MEMBERS AND OFFICERS—W. W. Swayze, Glen Gardner; Wm. Creveling, Pattenburg; J. V. Williver, Bloomsbury; Samuel O. Myers, Secretary, Bloomsbury; Dr. E. L. Riegle, Inspector, Bloomsbury.

One case of scarlet fever was reported. Three nuisances were abated. Three meetings were held.

HUNTERDON COUNTY—*Continued.*

Clinton Borough.—MEMBERS AND OFFICERS—F. A. Esty, John Hunt, M. D. Knight; Geo. A. Hall, Secretary; A. S. Leatherman, Inspector.

Estimated population, 875. Four nuisances were abated. Monthly meetings were held.

Clinton Township.—MEMBERS AND OFFICERS—Geo. F. Case, Lebanon; Matthias J. Wiggins, Annandale; George M. Rinehart, Cokesburg; Bergen B. Berkaw, Secretary, Annandale; Willard E. Berkaw, Inspector, Annandale.

Houses connected with public water-supply, 48. One nuisance was abated. Seventy-five gratuitous vaccinations were performed. Three meetings were held.

Delaware Township.—MEMBERS AND OFFICERS—Clark B. Johnson, Raven Rock; Samuel F. Fauss, Sand Brook; Hiram D. Hoppock, Sergeantsville; F. W. Venable, Secretary, Sergeantsville; Dr. Geo. N. Best, Inspector, Rosemont.

Two cases of typhoid fever and 2 of small-pox occurred. Two nuisances were abated. Five meetings were held.

East Amwell Township.—MEMBERS AND OFFICERS—Geo. Strymple, Ringoes; Wm. N. Reed, Westville; Thos. Sebring, Reaville; Wm. M. Clayhunce, Secretary, Wertsville; P. C. Young, M.D., Inspector, Ringoes.

Four cases of small-pox occurred. Two complaints were investigated. Gratuitous vaccination was offered to the public during the year. Six meetings were held.

Franklin Township.—MEMBERS AND OFFICERS—Hiram O. Young, Quakertown; John E. Anderson, Pittstown; W. A. C. Robinson, Pittstown; J. L. Agans, Secretary, Pittstown; Q. E. Snyder, M.D., Inspector.

One case of scarlet fever occurred. Two meetings were held.

Frenchtown Borough.—MEMBERS AND OFFICERS—E. L. Poore, Dr. F. H. Decker, Wm. S. Dalrymple, Chas. Segafors; E. W. Moore, Secretary.

Estimated population, 1,200. One case of scarlet fever occurred. Three nuisances were abated. Total number of dwellings connected with water-mains, 40.

HUNTERDON COUNTY—*Continued.*

High Bridge Borough.—MEMBERS AND OFFICERS—John L. Phillips, Marshal F. Apgar, Wm. C. Alpaugh, M.D.; Samuel Tait, Secretary; P. H. Murray, Registrar.

Estimated population, 1,400. Three cases of diphtheria, and 1 of typhoid fever were reported. Two nuisances were abated. There are very few unvaccinated school children. Gratuitous vaccination was offered during the year. Fifteen meetings were held.

Holland Township.—MEMBERS AND OFFICERS—F. H. Bellis, Finesville; W. Burgstresser, Holland; John W. Shafer, Milford; S. S. Snyder, Secretary, Milford; Godfrey Hawk, Registrar, Bloomsbury; Dr. A. A. Heil, Inspector, Milford.

One meeting was held.

Junction Borough.—MEMBERS AND OFFICERS—Dr. Theo. B. Fulper, Robert Thompson, W. Frank Fritts, James Splane; Edgar E. Riddle, Secretary.

Estimated population, 950. Four cases of scarlet fever and 1 of small-pox occurred. Three nuisances were abated. Six meetings were held.

Kingwood Township.—MEMBERS AND OFFICERS—John W. Hoff, Baptistown; I. N. Search, Baptistown; Thomas Mcalane, Point Pleasant; S. J. Snyder, Secretary, Locktown; Frank S. Grim, Inspector.

Three cases of scarlet fever were reported. There are 25 unvaccinated school children. One meeting was held.

Lambertville City.—MEMBERS AND OFFICERS—Wm. R. Bowne, Albert D. Anderson, Wm. A. Cole, Dr. F. W. Larison, Harry K. Kramer; James H. Reynolds, Secretary; John L. Coryell, Inspector.

Estimated population, 4,900. Communicable diseases were reported as follows: Diphtheria, 1; scarlet fever, 26; typhoid fever, 15. Total number of dwellings connected with public water-mains, 289. The city expended \$649 for the collection and disposal of garbage. Twenty nuisances were abated. Gratuitous vaccination was offered by the board. Twenty-eight meetings were held.

HUNTERDON COUNTY—*Continued.*

Lebanon Township.—MEMBERS AND OFFICERS—George F. Hoffman, High Bridge; Wm. H. Anderson, Califon; Wm. V. Prall, Changewater; Abram S. Banghart, Secretary, Glen Gardner.

Eight cases of diphtheria and 15 of scarlet fever were reported. Twenty complaints were investigated, and 10 nuisances abated. Twenty meetings were held.

Raritan Township.—MEMBERS AND OFFICERS—Wilson B. Moore, Joseph Sergeant, Lafayette Jordy; Charles Alpaugh, Secretary; John H. Ewing, M.D., Inspector. All of Flemington.

Three cases of diphtheria, 2 of typhoid fever and 2 of small-pox were reported. Seventeen nuisances were abated. A legal action was brought against the owner of a slaughter-house and a penalty for violation of an ordinance was recovered. Gratuitous vaccination was offered to the public during the year. Fifteen meetings were held.

Readington Township.—MEMBERS AND OFFICERS—Frank A. Cole, Pleasant Run; Geo. W. Sheets, Pleasant Run; Garret G. Conover, Whitehouse Station; David Schomp, Secretary, Pleasant Run; F. L. Johnson, M.D., Inspector, Stanton.

Fourteen cases of diphtheria, 3 of scarlet fever and 1 of typhoid fever occurred. Two meetings were held.

Stockton Borough.—MEMBERS AND OFFICERS—H. P. Cullen, Wm. V. Reed, Harry F. Huff, John B. Winters; John S. Willson, Secretary; Andrew D. Wilson, Registrar.

Estimated population, 700. Two nuisances were abated. Six meetings were held.

Tewksbury Township.—MEMBERS AND OFFICERS—Henry F. Craig, New Germantown; Elias Conover, Fairmount; Harvey S. Potter, Secretary, Pottersville; Dr. Theo. Miller, Inspector, Califon.

Two cases of typhoid fever and 1 of small-pox were reported. Eight meetings were held.

Union Township.—MEMBERS AND OFFICERS—Geo. B. Smith, Clinton; J. J. Sharp, Pattenburg; G. R. Emery, Jutland; John Little, Secretary, Jutland; Edgar Allen, M.D., Inspector, Pattenburg.

Five cases of diphtheria were reported. Three meetings were held.

HUNTERDON COUNTY—*Continued.*

West Amwell Township.—MEMBERS AND OFFICERS—Wm. N. Holcombe, Mount Airy; Chas. A. Slack, Lambertville; Wm. J. Cane, Lambertville; Geo. H. Carr, Secretary, Lambertville; F. W. Larison, M.D., Inspector, Lambertville.

One case of scarlet fever occurred. Two nuisances were abated. Ten meetings were held.

MERCER COUNTY.

East Windsor Township.—MEMBERS AND OFFICERS—Aaron Ely, E. R. Pickering; Frank Chamberlain, Hightstown; S. L. Mount, Secretary, Etra.

Ewing Township.—MEMBERS AND OFFICERS—Lewis E. Anderson, Trenton, R. F. D., No. 1; James F. Herbert, Trenton Junction; Samuel C. DeCou, Trenton Junction; Dr. Edgar Hart, Pennington; Wm. H. Cadwallader, Secretary, Trenton, R. F. D., No. 1.

One case of typhoid fever occurred. One nuisance was abated. The case of typhoid was traced to a polluted well. One meeting was held.

Hamilton Township.—MEMBERS AND OFFICERS—Dr. Geo. R. Robbins, Hamilton Square; Geo. C. Cubberley, Hamilton Square; Wm. E. Ford, Crosswicks; Joel A. Cranmer, Trenton; Wm. T. Robbins, Secretary, Hamilton Square; R. Ellsworth Haines, Registrar, Hamilton Square; James N. Reed, Inspector.

Six meetings were held.

Hopewell Borough.—MEMBERS AND OFFICERS—T. A. Pierson, Geo. E. Felter, D. L. Blackwell, S. V. Vanzandt; W. I. Phillips, Secretary; E. V. Savidge, Registrar.

Estimated population, 800. Two cases of diphtheria and 1 of typhoid fever were reported. Total number of dwellings connected with public water-mains, 60. Six nuisances were abated. Gratuitous vaccination was offered to the public during the year. Ten meetings were held.

MERCER COUNTY—*Continued.*

Hopewell Township.—MEMBERS AND OFFICERS—David Stout, Hopewell; Pierson B. Hunt, Titusville; John Fleming, Pennington; Arthur T. Blackwell, Secretary, Harbourton; Dr. Wm. Radcliffe, Inspector, Pennington.

Two nuisances were abated. Eleven meetings were held.

Lawrence Township.—MEMBERS AND OFFICERS—Clark Flock, Lawrence Station; John D. Cranston, Lawrenceville; Thos. B. DeCou, Lawrenceville; Dr. Edmund Dewitt, Lawrenceville; Frank Pierson, Secretary, Lawrenceville.

One nuisance was abated. Eight meetings were held.

Pennington Borough.—MEMBERS AND OFFICERS—James R. Bergen, Geo. W. Clusdening, Benj. F. Taylor, Dr. Edgar Hart; J. C. Bunn, Secretary; F. A. Blackwell, Inspector.

Estimated population, 850. One meeting was held.

Princeton Borough.—MEMBERS AND OFFICERS—Prof. E. H. Loomis, Prof. W. B. Harris, Dr. H. E. Wright, Richard Rowland, Dr. A. A. Woodhull; Martin Hubbard, Secretary; Leroy Anderson, V. D. Bayles, Inspectors.

Communicable diseases were reported as follows: Diphtheria, 1; scarlet fever, 4; typhoid fever, 1; small-pox, 19. Nine of the cases of small-pox occurred in one house. The borough authorities expended during the year \$900 for the collection and disposal of garbage. Number of nuisances abated, 200. One suit was brought against a plumber for violation of ordinance and a fine was recovered. Twelve regular meetings were held.

Princeton Township.—MEMBERS AND OFFICERS—Dr. E. H. Bergen, Princeton; M. Taylor Pyne, Princeton; R. M. Terhune, Princeton; B. L. Gulick, Kingston; H. N. VanDyke, Secretary, Princeton.

The isolation hospital for the care of cases of small-pox, which was used by the local board of Princeton borough, is located in this township. Seven meetings were held.

MERCER COUNTY—*Continued.*

Trenton City.—MEMBERS AND OFFICERS—Wm. Milburn, Adam Exton, Thomas Chambers, Dr. C. P. Britton, Dr. Richard R. Rogers, Francis B. Lee; Thomas Holmes, Secretary; C. Edward Murray, Registrar; Dr. A. S. Fell, Health Officer; W. C. Allen, E. L. Titus, Sanitary Inspectors; Geo. W. Feaster, Plumbing Inspector; Harry C. Valentine, Solicitor.

Estimated population, 76,000. Communicable diseases were reported as follows: Diphtheria, 29; scarlet fever, 46; typhoid fever, 55; small-pox, 37. The isolation hospital is located in Hamilton township. The cost to the city for the collection and disposal of garbage was \$18,000 a year. Number of complaints investigated during the year, 1,940. Number of nuisances abated, 1,455. Gratuitous vaccination was offered to the public by the board during the year.

Washington Township.—MEMBERS AND OFFICERS—Formen Hutchinson, Windsor; Chas. Hulse, Allentown; Jonathan Day, Windsor; E. K. Cole, Secretary, Windsor.

West Windsor Township.—MEMBERS AND OFFICERS—Jacob R. Wyckoff, Princeton Junction; David D. Bergen, Princeton Junction; Hiram Mount, Edinburg; C. H. Mather, Secretary, Port Mercer.

MIDDLESEX COUNTY.

Cranbury Township.—MEMBERS AND OFFICERS—David Wilson, Plainsboro; Edward W. Clayton, Prospect Plains; Joseph C. Chamberlain, Cranbury; A. M. Davison, Secretary, Cranbury; Dr. H. C. Symmes, Inspector, Cranbury.

One meeting was held.

Dunellen Borough.—MEMBERS AND OFFICERS—John R. Campbell, President; P. W. Brakeley, M.D., George W. Churchill; Wilson R. Frederick, Secretary; C. Wesley Blaine, Inspector.

Helmetta Borough.—MEMBERS AND OFFICERS—George A. Holme, Arthur H. Clemons, J. A. Trimmer, R. J. Franklin; Chas. W. Bumstead, Secretary; Edward M. Clemons, Registrar; Dr. J. G. Denelsbeck, Inspector.

Estimated population, 400. Seventeen dwellings are connected with the public water-supply. Three meetings were held.

MIDDLESEX COUNTY—Continued.

Madison Township.—MEMBERS AND OFFICERS—Cornellus Burlew, Browntown; Ambrose Green, Old Bridge; James Fountain, Browntown; I. C. Crandall, M.D., Old Bridge; D. H. Brown, Secretary, Browntown; Edward Barker, Inspector, Cliffwood.

Communicable diseases were reported as follows: Scarlet fever, 30; typhoid fever, 21; small-pox, 23. One nuisance was abated. There are 100 unvaccinated school children. Seven meetings were held.

Metuchen Borough.—MEMBERS AND OFFICERS—Dr. E. B. Dana, John Lehlein, A. C. Kelly; C. M. Tausig, Secretary; A. C. Ayres, Registrar.

Estimated population, 1,800. Two cases of small-pox were reported. Total number of dwellings connected with public water-supply, 177. Three nuisances were abated. Free vaccination was offered to the public during the year. Twenty meetings were held.

Milltown Borough.—MEMBERS AND OFFICERS—Conrad Wagner, Adam Wagner, Geo. C. Luis, Berthold Christ, R. M. Huestes; John H. Kuhteban, Secretary; Robert H. Harkins, Registrar; F. E. Riva, M.D., Inspector.

Estimated population, 500. Three meetings were held.

Monroe Township.—MEMBERS AND OFFICERS—C. A. Morse, Willard For-man, Samuel F. Butcher, J. L. Suydam, M.D.; Robt. R. Vandenbergh, Secretary, Prospect Plains.

One meeting was held.

New Brunswick City.—MEMBERS AND OFFICERS—F. B. Kilmer, Prof. John B. Smith, Dr. H. G. Cook, Geo. K. Parsell, Dr. P. A. Shannon; Dr. S. V. D. Clark, Secretary; George Denzer, Registrar.

Estimated population, 20,000. Communicable diseases were reported as follows: Diphtheria, 12; scarlet fever, 22; typhoid fever, 28; small-pox, 20. Total number of dwellings connected with water-mains, 2,319. The expenditure for the collection and disposal of garbage for the past year was about \$8,500. Eighty-eight nuisances were abated. Gratuitous vaccination was offered to the public by the board during the year. Seventeen meetings were held.

MIDDLESEX COUNTY—*Continued.*

The following regulations governing disinfection have been adopted by the board:

The disinfection of household material shall be ordered and, if necessary, carried out by the inspector or disinfection committee. In addition to disinfection of household materials found upon infected premises, the inspector may order the destruction by fire of such bedding, clothing or other articles as may, in his judgment, be advisable. Whenever the inspector shall order the destruction of any infected household property which is of apparent value an inventory shall be taken of the same and a report made to this board. So far as possible the following mode of procedure shall be followed in the disinfection of household material where performed by the officers or agents of this board of health. The following articles shall be provided for the disinfection of household materials: Apparatus for the generation of formaldehyde gas; washable garments in suitable containers for the operators; cotton batting; wrapping paper, paste, scissors, pins, putty and putty knife for closing openings; clotheshorses and clothesline; washtubs; pails of granite or wooden ware; chloride of lime, bromine, corrosive sublimate tablets, carbolic acid; sheets or other wrappings for infected material; corrosive sublimate solution, 1-1,000 (to be made by dissolving seven and a half grains of mercuric chloride and seven and a half grains ammonium chloride in one pint of soft water, or as an equivalent one fifteen-grain tablet in one pint of water); carbolic acid solution (five per cent.), (crystallized carbolic acid, five parts; glycerine, five parts; mixed and dissolved in 100 parts of water); chloride of lime solution (one pound of chloride of lime dissolved in one pail of water); bromine solution 1-250 (one part of bromine dissolved in 250 parts of water).

Before entering infected premises the disinfectors shall put on over their ordinary clothing, washable garments consisting of overalls, jackets, caps and rubber shoes. At the end of the operation and before leaving the premises the disinfectors shall remove this clothing and sprinkle the same with a solution of formalin and place the clothing in a suitable receptacle for disinfection. For this latter purpose a vapor-tight receptacle must be provided. After each time of using this clothing shall be washed by boiling.

So far as possible all articles which have been used by, or which have been in contact with, the infected patient shall be gathered into one room (living animals and plants to be removed from the room). Such articles as may be ordered to be destroyed shall, after inventory, be enclosed in a sheet wet with a solution of corrosive sublimate (or carbolic acid) and be removed. All loose cloths, paper and litter shall be enclosed in paper bags and either burned on the premises or removed and destroyed. All vessels or utensils which had been used by the sick person shall be filled with a solution of bromine (or chlorinated lime). Into all closets, sinks and drains pour three quarts of a solution of bromine (or chlorinated lime). Place all tablecloths, towels, pillow cases and washable materials in a pail or tub and cover completely with a solution of corrosive sublimate (or carbolic acid). Remove all pictures, hangings, &c., from walls. Open all cupboards, drawers and closets and spread out their contents. Unfold all clothing, turn pockets inside out. (Place handkerchiefs in the disinfecting solution.) Close all large cracks in the glass of windows and wood of doors with putty. Stuff cracks and openings around doors and windows with

MIDDLESEX COUNTY—Continued.

cotton saturated with a solution of corrosive sublimate or by pasting over with strips of paper. Close transoms, registers, speaking tubes, holes for electric bells or wires, &c., in the same manner. Spread out mattress, clothing, rugs, &c., upon a clotheshorse. Open out all books, place all ornaments or other articles in such a manner as will give the gas full access to the same. As the success of disinfection depends upon the care with which the sealing up is accomplished, this work must be carried out to its fullest extent. When all is completed, close outer doors and stuff cracks with cotton or cover with paper strips. Arrange the fumigating apparatus so as to conduct the gas through the keyhole of the outer door (this hole to be closed after the generation of the gas has been stopped). One-half litre of forty per cent. solution of formalin shall be used for every thousand cubic feet of space or a room ten by twelve. When so directed by the inspector, sulphur dioxide may be used in the place of formaldehyde gas, in which case also the preparation of the room and contents shall be conducted in the manner here outlined, except that before lighting the sulphur the room should be filled with water-vapor from boiling water or by sprinkling all objects with water by the use of a vaporizer. Three pounds of sulphur shall be used for every thousand cubic feet of space. The time of exposure to the disinfecting gas shall be twelve hours in any case. In the case of small-pox, cholera, measles, varioloid or typhoid fever, the time shall be twenty-four hours, subject to such further extensions as may be ordered by the inspector. After gaseous disinfection—when so ordered by the inspector—the paper on the walls shall be wet with a solution of corrosive sublimate and removed from the walls for a space of at least six feet from the floor and a coat of whitewash shall be applied. When so ordered by the inspector the floors and woodwork of the room shall be brushed with a solution of corrosive sublimate.

North Brunswick Township.—MEMBERS AND OFFICERS—Thomas H. Buckalew, Peter R. VanSickle, A. A. Voorhees; A. E. Bowman, Secretary. All of New Brunswick. John D. TenEyck, M.D., Inspector, Franklin Park.

Three cases of small-pox occurred. Five meetings were held.

Piscataway Township.—MEMBERS AND OFFICERS—Thos. H. Brantingham, South Plainfield; B. Dewitt Giles, New Market; Nelson M. Giles, Lincoln; M. J. Whitford, M.D., New Market; Chas. E. Kelly, Secretary, New Market.

Communicable diseases were reported as follows: Diphtheria, 1; scarlet fever, 5; typhoid fever, 1; small-pox, 4. Two nuisances were abated. Six meetings were held.

Raritan Township.—MEMBERS AND OFFICERS—Peter Lott, Metuchen; Edward Pfeiffer, Fords; Joseph T. Dunham, Highland Park; Wm. T. Woerner, Secretary, New Brunswick; W. V. McKenzie, M.D., Inspector, Metuchen.

Three meetings were held.

MIDDLESEX COUNTY—Continued.

Sayreville Township.—MEMBERS AND OFFICERS—August Rohdl, Wm. Burke, Henry Arleth, J. H. Beekman; B. F. Samsel, Secretary; Chas. Englehardt, Inspector. All of Sayreville.

Communicable diseases were reported as follows: Diphtheria, 1; scarlet fever, 2; typhoid, 1; small-pox, 38. The township is provided with an isolation hospital for small-pox cases. Only 5 per cent. of children attending school are unvaccinated. Gratuitous vaccination was offered to the public during the small-pox outbreak. Twenty-two meetings were held.

South Amboy City.—MEMBERS AND OFFICERS—E. E. Haines, M.D., B. Roddy, Jno. I. Taylor, J. Leon White, M.D.; J. F. Fulton, Secretary; Geo. Church, Inspector.

Estimated population, 7,000. Four cases of diphtheria, 1 of typhoid fever and 10 of small-pox occurred. Number of dwellings connected with public water-supply, 550. Cost of garbage collection and disposal for the past year, \$628. Four nuisances were investigated. An isolation hospital has been constructed. Gratuitous vaccination was offered to the public during the year. Twenty meetings were held.

South Brunswick Township.—MEMBERS AND OFFICERS—John H. Stults, Dayton; Frank W. Stout, Monmouth Junction; Geo. W. McDowell, Dayton; Dr. Edgar Carroll, Dayton; H. E. Hathaway, Secretary, Monmouth Junction.

Gratuitous vaccination was offered to the public during the year. One meeting was held.

South River Borough.—MEMBERS AND OFFICERS—Frederick W. Bissett, M.D., John VanNorden, John C. Bowne, Joseph Miller, Jr.; Max J. Heine, Secretary.

Estimated population, 3,100. Seven cases of small-pox occurred. An isolation hospital has been constructed. Annual cost of garbage collection and disposal, \$250. Monthly meetings were held.

MIDDLESEX COUNTY—*Continued.*

Woodbridge Township.—MEMBERS AND OFFICERS—John H. Lelsen, Joseph Herman, Harry Turner, Ira T. Spencer, M.D.,; C. M. Liddle, Secretary; Robert J. Wylle, Inspector. All of Woodbridge.

Communicable diseases were reported as follows: Diphtheria, 14; scarlet fever, 16; typhoid fever, 7. Number of nuisances abated, 56. Gratuitous vaccination was offered to the public by the board. Eighteen meetings were held.

MONMOUTH COUNTY.

Allenhurst Borough.—No organized board of health. Edward H. Ward, Jr., Borough Clerk.

Allentown Borough.—MEMBERS AND OFFICERS—Dr. P. Pumyea, Chas. Spaulding; Josiah S. Robbins, Secretary; William Forsythe, Inspector.

Incorporated in 1888. Population, census 1900, 750. One case of typhoid fever was reported.

Asbury Park.—MEMBERS AND OFFICERS—Nelson E. Buchanan, President; David W. Sexton, Jesse Minot, Theodore H. Beringer, James A. Bradley, George R. Hillier; Randolph Ross, Treasurer; Samuel A. Patterson, Attorney; D. C. Bowen, Secretary and Registrar of Vital Statistics; B. H. Obert, Inspector.

Date when founded	1869
Date when incorporated as city	1897
Population in 1880.....	1,640
Population in 1900.....	4,148
Population in 1902 (estimated).....	4,302
Assessed valuation in 1901, real estate.....	\$3,505,705
personal property	316,120
	<hr/> \$3,821,825
Total tax rate for year 1901.....	\$23.19 per \$1,000
Area in square miles.....	0.70
Number of streets	27
Number of miles of improved streets	11.84
Number of miles of unimproved streets	5.16
Number of fire hydrants	62
Number of miles of electric railways.....	5.58
Number of electric street lights	86
Number of Kitson street lights	20

MONMOUTH COUNTY—*Continued.*

The secretary writes as follows:

The personnel of the board remains the same as last year except that Mr. George R. Hillier was appointed to fill the vacancy created by the resignation of Mr. Alonzo R. Parsons. There have been fifty-one deaths during the year, which is seven less than during the preceding year. Thirty-two of these were among the resident and nineteen among the non-resident population. The table accompanying this report, showing the ages at death, is rather remarkable in that it shows but four, among the fifty-one deaths, under one year of age and but five under twenty years of age, while seventeen were over seventy, three over eighty and one over ninety years of age. On an estimated population of 4,302, with thirty-two deaths among the resident population, the rate per thousand is 7.44. Twenty-four causes of death are given—tuberculosis causing four; scarlet fever, one; pertussis, one; cholera infantum, two; typhoid fever, one. Fifteen certificates of death were signed giving heart affection as the cause of death, and six giving cerebral hemorrhage.

TABLE SHOWING NUMBER OF DEATHS OCCURRING IN ASBURY PARK AMONG RESIDENT AND NON-RESIDENT POPULATION EACH YEAR, 1881 EXCEPTED, FOR THE PAST TWENTY-THREE YEARS.

YEARS.	Resident population.*	DEATHS.			Resident death-rate per 1,000 population.
		Resident.	Non-resident.	Total.	
1880.....	1,640	19	13	32	11.58
1882.....	1,784	30	18	48	16.81
1883.....	1,856	18	12	30	9.69
1884.....	1,928	24	15	39	12.44
1885.....	2,000	20	14	34	10.00
1886.....	2,125	21	23	34	9.88
1887.....	2,250	20	29	49	8.88
1888.....	2,375	16	18	34	6.73
1889.....	2,500	28	28	56	11.20
1890.....	2,625	32	39	71	12.19
1891.....	2,750	34	28	62	13.36
1892.....	2,875	35	24	59	12.17
1893.....	3,000	30	19	49	10.00
1894.....	3,380	40	21	61	11.86
1895.....	3,761	39	17	56	10.36
1896.....	3,838	34	25	59	8.85
1897.....	3,916	43	19	62	10.98
1898.....	3,993	28	13	41	7.01
1899.....	4,071	37	22	59	9.08
1900.....	4,148	36	22	58	8.67
1901.....	4,225	37	21	58	8.76
1902.....	4,302	32	19	51	7.44

* Resident population estimated, except for years 1880, 1895 and 1900.

MONMOUTH COUNTY—*Continued.*

TABLE SHOWING AGES AT DEATH FOR YEAR ENDING OCTOBER 1ST, 1902.

AGES.	Males.	Females.	Totals.
Under 1 year.....	2	2	4
1 to 2 years.....			
2 " 5 ".....			
5 " 10 ".....		1	1
10 " 20 ".....			
20 " 30 ".....	1		1
30 " 40 ".....	2		2
40 " 50 ".....	2	5	7
50 " 60 ".....	6	2	8
60 " 70 ".....	5	2	7
70 " 80 ".....	6	11	17
80 " 90 ".....	2	1	3
90 " 100 ".....	1		1
Totals.....	27	24	51

Fifty-six marriages and thirty-six births have been reported during the year.

TABLE SHOWING MARRIAGES, BIRTHS AND STILL-BIRTHS FOR PAST THIRTEEN YEARS.

YEARS.	Population.*	Marriages.	Births.	Still-births.
1890.....	2 625	65	32	
1891.....	2 750	45	49	1
1892.....	2 875	48	46	2
1893.....	3 000	50	55	1
1894.....	3 380	47	45	1
1895.....	3 761	61	51	3
1896.....	3 838	44	37	1
1897.....	3 916	82	51	2
1898.....	3 993	45	46	1
1899.....	4 071	55	39	1
1900.....	4 148	45	32	2
1901.....	4 225	54	26	2
1902.....	4 302	56	36	
Totals.....		697	545	17

* Estimated except for census years.

MONMOUTH COUNTY—*Continued.*

Substantial progress has been made during the year in carrying out the plan which has been adopted for the establishment of a municipal hospital for the reception and care of communicable diseases. The city has acquired for this purpose, partly by gift and partly by purchase, a tract of land comprising 75.05 acres, known as Spring Hill Park, and situated one and three-fifths miles west of the city limits. A portion of this tract has an elevation of about one hundred and ten feet above the sea level, and from the sites selected for the location of hospital buildings an unobstructed view of the surrounding country may be had. Upon this tract of land it is proposed to erect separate pavilions for the care of diphtheria, scarlet fever and small-pox cases, together with a caretaker's house. One of these proposed pavilions has just been completed at a cost of \$3,334.84 and it is now ready for the furnishings. This pavilion is one story high, is constructed of brick, has impervious, concrete floors and a slate roof. It contains two wards, kitchen, nurses' room, bath-room and separate water-closet apartments conveniently located for each ward. The wards are thirty-six by twenty-four feet, with fourteen-foot ceilings and are designed for six patients each. The entire amount of the cost of this building has been raised by the "Present Day Club," an organization of the ladies of this city, whose efforts alone have made the erection of this building possible at this time. While a good beginning has thus far been made, it is quite necessary that a caretaker's cottage shall be constructed, pipes laid and a pump and tank secured for raising and distributing water from the supply which is available on the property at the earliest possible moment. Authority for the construction by the city and control by the board of health of Asbury Park of hospital buildings located in Neptune township has, by resolution, been granted by the Neptune township board of health, under authority given by chapter 166, laws of 1902. It is proposed, when the buildings have been completed and are ready for occupancy, under authority given by the act to which the above is a supplement, to receive, if requested so to do, patients suffering from communicable diseases from adjoining sanitary districts, the cost incurred in the care of such patients to be defrayed by the patient or by the municipality from which the case may be received.

Owing to the attention now being given by sanitarians throughout the country to the mosquito question, particularly to that variety of mosquito which is known to be the agent in the transmission of malarial diseases, a mosquito survey was made during the summer and fall which covered every premises in the city, together with Deal, Sunset and Wesley lakes, as well as a large part of the unbuilt portion of land for a distance of one and one-half miles west of the city limits. In view of the fact that cases of malaria are seldom, if ever, met with in this city which, so far as is known, were contracted here, and that mosquitoes are not present in Asbury Park in sufficient numbers to be in any way annoying, it was not expected that this search would reveal many places in which mosquitoes were breeding. The upper stratum of the soil underlying the site of Asbury Park consisting mainly of sand, and the streets of the city being so graded and drained that storm water is quickly carried off, there are but few places where pools of water may be found more than a few hours after a rainfall, be it ever so heavy, it was, therefore, supposed that along the borders of Deal, Sunset and Wesley lakes would be the likely places to find mosquito larvae. In this surmise, however, we were wrong. Repeated and diligent search



Asbury Park Isolation Hospital—Diphtheria Pavilion. East View.

MONMOUTH COUNTY—*Continued.*

made of the waters in and around the borders of the lakes failed to reveal a single specimen. On the other hand, more breeding places were found to exist on private properties and in the public streets than were at first expected. These places consisted in the main of water contained in rain-water barrels, in small vessels, such as old pails, tin cans, &c., which are sometimes allowed to remain in back yards, where they collect rain-water and afford a place for the mosquito to deposit eggs; and, in many instances, these vessels are permitted to remain undisturbed until the eggs are hatched, pass through the successive stages of development and issue forth full-fledged specimens in search of prey. The absence of wrigglers in the lakes is evidently due to the fish of various kinds with which the waters in the lakes abound. By far the most prolific breeding ground, and in fact the only place where any considerable number of mosquitoes were found to be breeding in the territory covered by this inspection, was an open ditch on the borders of a piece of meadow land, south of Wesley lake branch and west of the New York and Long Branch railroad. The head of this ditch is directly in the rear of the back yards of a row of tenement houses from which slops and refuse find their way therein, and for a distance of about two hundred feet the liquid filth contained in this ditch was found to be teeming with mosquito larvæ. This breeding place is evidently the source of supply of the mosquitoes which, I was informed, are at times very annoying to persons who reside in that immediate neighborhood. The drainage from this elongated cesspool is conveyed into Wesley lake through a connecting ditch about eight hundred feet in length, running parallel with the roadbed of the New York and Long Branch railroad. It is considered rather remarkable that not a single *Anopheles* mosquito, nor the larvæ of this species, has been met with during this work. Domestic breeding places were found within the city limits as follows: butter tubs in back yards, six; old pails, four; tin cans and similar small receptacles, eleven; paint kegs, four; stable manure receptacles, not in use but containing a small amount of stagnant water, two; coal scuttles, one; discarded cooking utensils, three; washing tubs, six; rain-water barrels, four; rubbish barrels, two. In two places in the street gutters, owing to improper grade, water was found standing at all times during the past summer, and large numbers of mosquitoes were found to be breeding therein. A number of casks which are kept filled with fresh water for fire purposes at the various groups of bathing houses on the beach, together with a row of fibre pails containing water for fire purposes, kept upon a shelf at the Fifth avenue pavilion, contained mosquitoes in every stage of development. In the outlying district, pools and ditches in meadow lands, roadside ditches and street gutters, were the main breeding places, and the more filthy the water in these ditches the greater the number of wrigglers. The water in one of three springs, formed by barrels being sunk in the ground at the foot of a hill, was found to abound with larvæ of mosquitoes, while in two of these springs not a single wriggler could be found. Upon further investigating these springs it was found that frogs inhabited two of the springs, while the third, and the one in which mosquitoes were found to be breeding, was so constructed that (one of the barrels of which the spring is formed extends above the ground surface) frogs could not gain access to the water.

Reports of twenty-seven cases of notifiable communicable diseases were received as follows: small-pox, two; typhoid fever, three; scarlet fever, two; diphtheria, three; measles, seventeen. The first case of typhoid fever occurred

MONMOUTH COUNTY—*Continued.*

in a person shortly after returning to Asbury Park after a visit of some length to the Buffalo exposition; in the second case the patient arrived in Asbury Park from Alabama, ill with this disease, on June 15th, and the third case, reported on August 13th and died on August 15th, occurred in a family which had moved to Asbury Park from an adjoining sanitary district on June 9th, the source of infection not being learned. The first case of scarlet fever occurred in January in a family, directly after their return home from a visit out of the city, and the second case occurred among the guests at a hotel in July. The first case of diphtheria occurred in March, the second in June and the third in August. The source of infection was not learned in either of the three cases. On November 7th, 1901, a negro, employed as a coachman in this city, was reported to be affected with small-pox. Inquiry showed that this man had arrived in Asbury Park on October 23d, after having spent five weeks' vacation in Newark, New Jersey. On November 3d he complained to his employer of feeling ill. On November 4th, after consulting a physician, he went to his room, and on November 7th the man was reported by his physician as suffering from small-pox. At that time the city was without a small-pox hospital building. A special meeting of the board was held during the evening of November 7th and the construction of a temporary hospital building and the removal of the patient thereto was authorized. The building shown in the accompanying photograph was constructed and furnished, and the patient and nurse, who was secured when the case was reported, were removed to the hospital on November 9th. The cost of the building and furnishings amounted to \$244.50. The hospital was open on this occasion forty-eight days, and the cost for the care of the case, exclusive of the cost of the building, was \$310.76. This patient had never been successfully vaccinated. The vaccination of all persons known to have had an exposure and the disinfection of the premises after the removal of the patient was effectual in preventing the spread of the disease.

This second case of small-pox, occurring in Asbury Park during the past year, was reported on June 26th. The patient came, with his family, from Newark, New Jersey, to Asbury Park on Saturday, June 7th. On Monday, June 9th, he went from Asbury Park to Long Branch, New Jersey, and on Saturday, June 14th, he returned to Asbury Park feeling ill. On Monday, June 16th, his case was diagnosed as small-pox. The patient was removed to the hospital on the same day and on June 23d the case proved fatal. This man had never been vaccinated. The cost for the care of this case, from the 16th to the 23d of June, and for the burial of the body, after death, was \$157.96. Free vaccination, in accordance with the established custom of this board, has been offered during the past year, and in order to emphasize the necessity of each person in the community being protected against small-pox by a recent vaccination, and, if possible, to stimulate public activity in this direction, the following resolution was adopted at a regular meeting of the board of health, held on December 13th, 1901, and given to the daily papers for publication:

WHEREAS, Small-pox is now prevalent in many localities in New Jersey and in adjoining States; *whereas*, our records show that many persons in this city are unprotected by vaccination; *whereas*, by reason of the widespread infection of small-pox on lines of travel and in numerous cities and towns, there is unusual liability to exposure to this disease, and cases of small-pox may appear in this community at any time; *whereas*, small-pox is the only disease against



Asbury Park Isolation Hospital—Diphtheria Pavilion. West View.

MONMOUTH COUNTY—*Continued.*

which we have a positive preventive, and a well-vaccinated community can bid defiance to this pestilential affection, therefore be it

Resolved, That the board of health of Asbury Park calls the attention of all citizens of Asbury Park to the protection which is afforded against this dreaded disease by vaccination, and strongly urges that general vaccination and re-vaccination be practiced, and all practicing physicians in this city are hereby advised to secure, as far as possible, the vaccination of the families who depend upon them for professional advice and service.

Since the revision of the school laws of 1900 the board of education have been repeatedly advised and strongly urged by this board to enforce the provisions of the law relating to unvaccinated persons attending the public schools. In a further effort to urge the board of education to give the public the protection intended by this provision of the law, the following resolution was adopted by the board of health and transmitted to the board of education on December 13th, 1901:

WHEREAS, Small-pox exists as a widespread epidemic and this disease is steadily gaining ground in the State of New Jersey, one case having recently occurred in this community and being still under treatment; *whereas*, the report of the medical inspector of public schools for the past year shows that a considerable number of children (142) were in attendance upon the public schools in Asbury Park who had never been vaccinated, therefore be it

Resolved, That the board of education of Asbury Park is hereby advised and strongly urged to enforce the provisions of section 122, of chapter 96, of laws of 1900, and to at once require vaccination as a prerequisite to attendance in the public schools.

MONMOUTH COUNTY—*Continued.*

TABLE SHOWING THE NUMBER OF REPORTED CASES OF COMMUNICABLE DISEASES IN ASBURY PARK, AND DEATHS OCCURRING THEREFROM, DURING THE PAST EIGHTEEN YEARS.

YEARS.	Resident population (estimated except for census years).	NUMBER OF CASES REPORTED.						DEATHS.					
		Measles.	Scarlet fever.	Diphtheria.	Typhoid fever.	Consumption.	Small-pox.	Measles.	Scarlet fever.	Diphtheria.	Typhoid fever.	Consumption.	Small-pox.
1885.....	2 000	14	3	1	.....	.....	.....	.....	2	1	.....	2	.....
1886.....	2 125	4	2	9	.....	.....	.....	.....	.....	4	.....	5	.....
1887.....	2 250	82	7	7	.....	.....	.....	.....	.....	7	.....	3	.....
1888.....	2 375	.....	20	2	1	.....	.....	.....	1	1	.....	4	.....
1889.....	2 500	10	3	.....	1	.....	.....	.....	.....	1	.....	3	.....
1890.....	2 625	.....	16	6	.....	.....	.....	.....	1	2	.....	4	.....
1891.....	2 750	1	6	2	.....	.....	.....	.....	.....	.....	.....	5	.....
1892.....	2 875	36	4	7	1	.....	.....	.....	1	3	1	4	.....
1893.....	3 000	.....	7	6	.....	.....	.....	.....	.....	1	.....	3	.....
1894.....	3 380	7	7	2	4	1	8	.....	.....	.....	1	5	1
1895.....	3 761	6	5	5	7	1	.....	.....	.....	3	.....	2	.....
1896.....	3 838	39	3	2	1	.....	.....	1	.....	1	.....	7	.....
1897.....	3 916	5	14	15	2	1	.....	.....	.....	2	1	2	.....
1898.....	3 993	5	3	1	1	.....	.....	.....	.....	.....	.....	1	.....
1899.....	4 071	4	6	2	3	2	.....	.....	.....	.....	.....	3	.....
1900.....	4 149	20	.....	4	2	.....	.....	.....	.....	1	.....	5	.....
1901.....	4 225	6	29	2	2	.....	1	.....	2	.....	.....	7	.....
1902.....	4 302	17	2	2	3	.....	2	.....	1	.....	1	4	.....
Totals.....	.....	256	137	75	28	5	11	1	8	27	4	69	1

Ninety-one plans and specifications for the construction of house drainage have been approved and sixty-six notices for minor alterations and repairs in house drainage have been filed during the past year. In view of the fact that the common house-fly is now known to be a disseminator of communicable disease, and that where human excrement is retained on premises in open privy vaults, where flies crawl over and breed in the excrementitious matter contained therein, the danger of the spread of typhoid fever is always present, this board has renewed its efforts during the past year to secure the abatement of the nuisances which are created by the existence of privy vaults, which are still in use on a number of premises in this city. Twenty-two of these objectionable structures have been removed during the year, leaving 215 still in use.



Temporary Small-Pox Hospital, Asbury Park, N. J.

MONMOUTH COUNTY—*Continued.*

TABLE SHOWING NUMBER OF PRIVY VAULTS IN ASBURY PARK EACH YEAR FOR THE PAST SIX YEARS.

YEARS.	Sewer-connected vaults.	Vaults not sewer connected.	Total.	Citizens' complaints against privy vaults.	Referred to sanitary committee.	Found to be defective and leaky.
1897.....	291	54	345	33	6	2
1898.....	288	46	314	45	6	1
1899.....	237	42	279	44	4	3
1900.....	218	38	256	56	4	6
1901.....	199	38	237	56	4	1
1902.....	183	32	215	57	4	5

A new contract has been made by the city for the collection, removal and disposal of garbage, dead animals and rubbish for a term of three years dating from June 15th, 1902. The price to be paid for this service is \$4,850 per year. Three thousand six hundred and thirty-four cubic yards of garbage and 8,804 cubic yards of rubbish were removed by the contractor during the past year, and, aside from the garbage which accumulated on two of the larger hotel properties in this city, which was removed at private expense, these figures represent the amount of these waste products which accumulated in Asbury Park during the year. Ashes are collected and removed once in each week under a separate contract at an annual cost of \$400. There has been no change in the manner of handling these waste materials during the year. An additional number of metal carts are needed for the improvement of that part of the service relating to the collecting and removal of garbage. The disposal of garbage is accomplished by feeding it to hogs, and the rubbish is burned in open fires. This is carried on about two miles from the city limits and results in an occasional complaint from persons residing near the place of disposal. The privilege of culling the rubbish, after it is delivered to the place of disposal and before burning, is let by the contractor, a privilege for which he receives several hundred dollars per year. His income is further increased by the sale of two or three hundred hogs which he feeds upon garbage each year.

MONMOUTH COUNTY—Continued.

TABLE SHOWING THE AMOUNT OF GARBAGE REMOVED FROM THE CITY OF ASBURY PARK DURING THE PAST THREE YEARS.

WEEK ENDING.	Cubic yards removed.	WEEK ENDING.	Cubic yards removed.	WEEK ENDING.	Cubic yards removed.
1899.		1900.		1901.	
Oct. 7.....	36.51	Oct. 6.....	42.96	Oct. 5.....	32.23
" 14.....	32.76	" 13.....	37.59	" 12.....	34.36
" 21.....	32.23	" 20.....	34.87	" 19.....	34.36
" 28.....	31.15	" 27.....	28.99	" 26.....	31.15
Nov. 4.....	30.07	Nov. 3.....	27.39	Nov. 2.....	32.22
" 11.....	28.99	" 10.....	27.92	" 9.....	29.00
" 18.....	28.99	" 17.....	25.77	" 16.....	26.84
" 25.....	26.85	" 24.....	24.70	" 23.....	26.84
Dec. 2.....	21.47	Dec. 1.....	26.31	" 30.....	27.92
" 9.....	22.55	" 8.....	25.24	Dec. 7.....	26.85
" 16.....	22.55	" 15.....	23.19	" 14.....	26.85
" 23.....	19.87	" 22.....	23.62	" 21.....	21.47
" 30.....	17.72	" 29.....	25.77	" 28.....	25.77
1900.		1901.		1902.	
Jan. 6.....	19.34	Jan. 5.....	24.70	Jan. 4.....	22.54
" 13.....	18.25	" 12.....	25.77	" 11.....	20.39
" 20.....	19.33	" 19.....	24.70	" 18.....	19.86
" 27.....	18.79	" 26.....	23.62	" 25.....	21.47
Feb. 3.....	16.65	Feb. 2.....	22.55	Feb. 1.....	22.54
" 10.....	21.48	" 9.....	22.54	" 8.....	20.39
" 17.....	19.32	" 16.....	20.40	" 15.....	19.32
" 24.....	18.25	" 23.....	23.63	" 22.....	17.18
Mar. 3.....	17.19	Mar. 2.....	24.70	Mar. 1.....	21.47
" 10.....	18.79	" 9.....	23.09	" 8.....	20.40
" 17.....	20.40	" 16.....	24.70	" 15.....	22.55
" 24.....	20.40	" 23.....	25.24	" 22.....	20.40
" 31.....	19.86	" 30.....	25.77	" 29.....	21.47
April 7.....	20.93	April 6.....	25.77	April 5.....	23.63
" 14.....	20.94	" 13.....	25.77	" 12.....	23.63
" 21.....	22.54	" 20.....	25.77	" 19.....	22.55
" 28.....	21.47	" 27.....	25.77	" 26.....	23.63
May 5.....	24.16	May 4.....	24.70	May 3.....	24.16
" 12.....	25.78	" 11.....	26.85	" 10.....	25.77
" 19.....	26.85	" 18.....	27.92	" 17.....	25.77
" 26.....	29.53	" 25.....	29.00	" 24.....	26.85
June 2.....	34.91	June 1.....	34.37	" 31.....	27.92
" 9.....	43.49	" 8.....	33.28	June 7.....	32.22
" 16.....	52.62	" 15.....	37.05	" 14.....	41.35
" 23.....	63.91	" 22.....	57.99	" 21.....	60.69
" 30.....	74.11	" 29.....	64.45	" 28.....	66.61
July 7.....	122.44	July 6.....	109.56	July 5.....	102.04
" 14.....	140.70	" 13.....	133.84	" 12.....	149.14
" 21.....	163.52	" 20.....	157.75	" 19.....	168.07
" 28.....	194.26	" 27.....	178.24	" 26.....	203.73
Aug. 4.....	221.47	Aug. 3.....	200.92	Aug. 2.....	205.99
" 11.....	290.38	" 10.....	227.72	" 9.....	249.16
" 18.....	310.05	" 17.....	284.30	" 16.....	296.73
" 25.....	292.62	" 24.....	325.59	" 23.....	300.94
Sept. 1.....	249.72	" 31.....	289.21	" 30.....	277.96
" 8.....	206.28	Sept. 7.....	219.89	Sept. 6.....	213.76
" 15.....	123.11	" 14.....	145.77	" 13.....	159.07
" 22.....	91.29	" 21.....	109.55	" 20.....	116.02
" 29.....	74.10	" 28.....	77.32	" 27.....	89.16
		" 30.....	18.26	" 30.....	32.22
	3,540.94		3,601.74		3,634.61

MONMOUTH COUNTY—Continued.

TABLE SHOWING THE AMOUNT OF RUBBISH REMOVED DURING THE PAST THREE YEARS.

WEEK ENDING.	Cubic yards removed.	WEEK ENDING.	Cubic yards removed.	WEEK ENDING.	Cubic yards removed.
1899.		1900.		1901.	
Oct. 7.....	124.0	Oct. 6.....	148.0	Oct. 5.....	136.0
" 14.....	116.0	" 13.....	120.0	" 12.....	144.0
" 21.....	108.0	" 20.....	124.0	" 19.....	120.0
" 28.....	108.0	" 27.....	112.0	" 26.....	116.0
Nov. 4.....	80.0	Nov. 3.....	88.0	Nov. 2.....	112.0
" 11.....	100.0	" 10.....	90.0	" 9.....	108.0
" 18.....	84.0	" 17.....	112.0	" 16.....	120.0
" 25.....	74.0	" 24.....	90.0	" 23.....	120.0
Dec. 2.....	56.0	Dec. 1.....	80.0	" 30.....	84.0
" 9.....	66.0	" 8.....	80.0	Dec. 7.....	96.0
" 16.....	64.0	" 15.....	84.0	" 14.....	112.0
" 23.....	66.0	" 22.....	84.0	" 21.....	84.0
" 30.....	54.0	" 29.....	84.0	" 28.....	88.0
1900.		1901.		1902.	
Jan. 6.....	56.0	Jan. 5.....	72.0	Jan. 4.....	68.0
" 13.....	60.0	" 12.....	72.0	" 11.....	76.0
" 20.....	64.0	" 19.....	72.0	" 18.....	76.0
" 27.....	74.0	" 26.....	80.0	" 25.....	80.0
Feb. 3.....	60.0	Feb. 2.....	64.0	Feb. 1.....	60.0
" 10.....	68.0	" 9.....	64.0	" 8.....	72.0
" 17.....	60.0	" 16.....	72.0	" 15.....	72.0
" 24.....	78.0	" 23.....	74.0	" 22.....	24.0
Mar. 3.....	60.0	Mar. 2.....	64.0	Mar. 1.....	140.0
" 10.....	92.0	" 9.....	72.0	" 8.....	152.0
" 17.....	72.0	" 16.....	92.0	" 15.....	168.0
" 22.....	100.0	" 23.....	116.0	" 22.....	152.0
" 31.....	92.0	" 30.....	124.0	" 29.....	172.0
April 7.....	136.0	April 6.....	156.0	April 5.....	188.0
" 14.....	116.0	" 13.....	180.0	" 12.....	152.0
" 21.....	148.0	" 20.....	128.0	" 19.....	160.0
" 28.....	144.0	" 27.....	156.0	" 26.....	172.0
May 5.....	132.0	May 4.....	182.0	May 3.....	176.0
" 12.....	136.0	" 11.....	156.0	" 10.....	200.0
" 19.....	136.0	" 18.....	144.0	" 17.....	180.0
" 26.....	188.0	" 25.....	188.0	" 24.....	176.0
June 2.....	192.0	June 1.....	214.3	" 31.....	184.0
" 9.....	208.0	" 8.....	257.4	June 7.....	196.0
" 16.....	224.0	" 15.....	228.0	" 14.....	216.0
" 23.....	226.0	" 22.....	240.0	" 21.....	208.0
" 30.....	232.0	" 29.....	224.0	" 28.....	232.0
July 7.....	196.0	July 6.....	236.0	July 5.....	224.0
" 14.....	248.0	" 13.....	260.0	" 12.....	272.0
" 21.....	276.0	" 20.....	304.0	" 19.....	268.0
" 28.....	286.0	" 27.....	272.0	" 26.....	248.0
Aug. 4.....	272.0	Aug. 3.....	288.0	Aug. 2.....	304.0
" 11.....	268.0	" 10.....	272.0	" 9.....	288.0
" 18.....	292.0	" 17.....	310.1	" 16.....	304.0
" 25.....	280.0	" 24.....	360.2	" 23.....	308.0
Sept. 1.....	276.0	" 31.....	336.0	" 30.....	332.0
" 8.....	264.0	Sept. 7.....	304.0	Sept. 6.....	292.0
" 15.....	222.0	" 14.....	264.0	" 13.....	248.0
" 22.....	192.0	" 21.....	188.0	" 20.....	236.0
" 29.....	168.0	" 28.....	208.0	" 27.....	208.0
		" 30.....	20.0	" 30.....	80.0
	7,494.0		8,410.0		8,804.0

MONMOUTH COUNTY—*Continued.*

The garbage contractor's daily reports for the past three years show the following number of violations, by householders, of the health ordinances, in the manner of storing garbage and rubbish:

	1900.	1901.	1902.
Premises with leaky metal receptacles.....	21	44	8
Premises on which garbage was stored in wooden receptacles,	29	42	49
Garbage receptacles containing an excessive amount of fluids,	3	3	3
Premises on which garbage receptacles were inadequate.....	22	49	57
Premises on which garbage was stored in inaccessible places,	0	1	1
Premises on which the garbage receptacles were too large to be conveniently emptied.....	8	1	2
Premises on which ashes were mixed with garbage.....	1	0	0
Premises on which rubbish was mixed with garbage.....	5	1	0
Premises on which rubbish contained prohibited substances..	8	3	1
Totals.....	97	144	121

The following table shows the number and nature of citizens' complaints received and investigated during the year:

TABLE SHOWING NATURE OF COMPLAINTS RECEIVED.

DATE OF COMPLAINTS.	Offensive odors in dwellings due to causes unknown to occupants.	Overflowing and offensive privy vaults.	Overflowing catch-basins.	Placing rejectments from catch basins upon the ground or in garbage or rubbish receptacles.	Obstructed drains and defective plumbing.	Offensive water-closet apartments.	Refuse accumulations in back yards.	Placing waste fluids upon the ground.	Keeping fowls in back yards.	Against garbage service.	Leaky and offensive garbage receptacles.	Burning garbage and offensive substances.	Offensive fish markets	Offensive butcher shops	Offensive livery stables.	Offensive private stables	Unclean streets and street gutters	Dead animals in public streets.	Dead animals on private property.	Disturbing noises.	Leaky gas pipes and fixtures	Food poisoning.	Unclean alleys.	Damp cellars.	Miscellaneous.	Totals.
1901.																										
October.....	3	2	1	1	2	1	1	1	5	3	1	2	1	1	2	2	2	2	2	2	1	1	1	1	1	16
November.....	1	2	1	1	2	1	1	1	1	3	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	18
December.....	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	7
1902.																										
January.....	1	1	1	1	1	1	1	1	2	2	1	1	1	1	1	3	2	2	2	1	1	1	1	1	1	11
February.....	1	1	1	1	1	1	1	1	2	2	1	1	1	1	1	2	1	1	1	1	1	1	1	1	1	12
March.....	1	1	1	1	1	1	1	1	3	3	1	1	1	1	1	4	1	1	1	1	1	1	1	1	1	17
April.....	1	1	1	1	1	1	1	1	3	3	1	1	1	1	1	2	7	1	1	1	1	1	1	1	1	20
May.....	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	12
June.....	1	8	1	1	4	4	1	1	1	1	1	4	6	1	1	1	1	4	2	1	1	1	1	1	1	26
July.....	2	12	3	1	2	2	6	9	14	1	1	1	1	1	1	3	7	3	2	2	1	1	1	1	1	44
August.....	4	1	3	1	1	2	6	3	3	12	1	1	1	1	1	2	2	1	1	1	1	1	1	1	1	74
September.....	1	7	1	2	2	2	5	2	6	6	2	1	1	1	2	1	1	1	1	1	1	1	1	1	1	38
Totals.....	9	89	9	1	23	10	26	21	5	55	8	1	1	1	2	18	21	8	29	24	2	1	1	3	8	111

MONMOUTH COUNTY—*Continued.*

Of the fifty-five citizens' complaints against the garbage service, no just cause for complaint was found to exist in thirteen cases. Of the two hundred and sixty-six remaining complaints of nuisances, just cause for the complaint was found to exist in all but seventeen cases.

One hundred and thirty-five specimens of diseased tissues have been sent during the year through this department to the State bacteriological laboratory for diagnosis, as follows:

SPECIMEN.	Positive.	Negative.	Unsatisfactory.	Totals.
Suspected diphtheria	16	30	1	47
Suspected gonococci .....	.....	4	.....	4
Suspected tuberculosis.....	16	24	1	41
Suspected malarial organism.....	17	14	2	33
Suspected typhoid.....	2	7	1	10
Totals.....	51	79	5	135

TABLE SHOWING THE NUMBER OF WRITTEN PERMITS ISSUED DURING THE YEAR,
BY MONTHS.

MONTHS.	Certificates of approval of plumbing plans.	Constructing stable manure receptacles.	Constructing catch-basins.	To scavengers.	For collecting butchers' offal and fat.	Burial and transit.	Transit, local.	For the sale of ice.	To return to public school.	Notice to Sunday school superintendents after disinfecting infected premises.	Totals.
1901.											
October.....	4	4	.....	6	.....	2	3	.....	.....	.....	19
November.....	8	.....	.....	5	.....	1	1	.....	.....	.....	15
December.....	3	.....	.....	.....	.....	7	.....	.....	.....	.....	10
1902.											
January.....	3	1	.....	3	.....	4	.....	.....	1	2	14
February.....	2	.....	.....	.....	.....	3	3	.....	.....	.....	8
March.....	18	1	.....	15	.....	3	1	.....	.....	1	39
April.....	11	.....	.....	2	.....	4	3	.....	.....	.....	20
May.....	17	1	.....	14	.....	5	1	.....	.....	.....	38
June.....	6	.....	.....	15	3	2	.....	1	.....	1	28
July.....	4	2	.....	14	.....	5	3	.....	.....	.....	28
August.....	3	1	.....	8	.....	9	9	.....	.....	.....	30
September.....	2	.....	1	3	.....	6	2	.....	.....	.....	14
Totals.....	81	10	1	85	3	51	26	1	1	4	263

MONMOUTH COUNTY—*Continued.*

OFFICE AND INSPECTION WORK.

Number of violations of health ordinances reported by inspectors during the year	679
Number of reinspections of premises after notice to abate nuisances had been sent	213
Number of citizens' complaints investigated	321
Number of written orders sent for abatement of nuisances	335
Number of cases in which notice to abate nuisances were known to have been complied with without further action	131
Number of cases referred to the board with request for instructions	26
Number of written communications sent from office	690
Number of inspections made of plumbing work under construction	215
Number of air-pressure tests applied to plumbing work under construction ..	80
Number of smoke tests applied to plumbing work	76
Number of notices for minor alterations and repairs in plumbing work, filed by plumbers, and inspections made	66
Number of plumbing plans filed	84
Number of plumbing plans approved	81
Number of plumbing plans disapproved	3
Number of specimens sent to State bacteriological laboratory and replies received through this office	135
Number of dwellings disinfected	11
Number of infected articles disinfected by request	3
Number of samples of milk examined	21
Number of samples of kerosene oil examined	12

TABLE SHOWING NUMBER OF PROSECUTIONS FOR VIOLATING HEALTH ORDINANCES FOR YEAR ENDING OCTOBER 1ST, 1902.

NATURE OF VIOLATION.	Number of suits ordered.	Nuisance abated before case was tried.	Judgments secured.	Cases pending.	Amount of judgments rendered.	Amount of judgments collected.
Of plumbing ordinance	1	.....	.....	1	.....	.....
Of milk ordinance .....	.....	.....	.....	.....	.....	\$10 00
Storing stablemanure upon the ground	2	1	1	.....	\$25 00	25 00
Transporting offal without a permit .....	.....	.....	1	.....	25 00	25 00
Polluting ground by waste fluids	4	.....	3	1	75 00	103 00
Unclean and offensive fish markets .....	.....	.....	.....	.....	.....	25 00
Leaky and offensive privy vaults	2	.....	1	.....	25 00	25 00
Totals	9	1	6	2	\$150 00	\$213 00

MONMOUTH COUNTY—*Continued.*

Extract from the report of S. A. Patterson, Esq., attorney for the Board of Health of Asbury Park.

During the past year, the health laws of this State and legal proceedings thereunder, instituted by the board of health of the city of Asbury Park, have been before the court of errors, the supreme court and the court of common pleas of the county of Monmouth. The principal case was that of a suit for damages brought by one Cook against the board of health of Asbury Park and one of its inspectors to recover the value of goods and chattels of Cook's which were destroyed by order of the board of health, the premises where the goods were located having been occupied by a family in which there was diphtheria, and the goods being probably infected. The proceedings for the destruction of the goods were in conformity with the ordinance of the local board of health regulating such a matter, and also in conformity with the regulations prescribed by the act establishing boards of health, approved March 31st, 1887, and the several supplements thereto.

After the destruction of the goods the board of health, for the purpose of determining the value of the goods, proceeded under the act of 1883, general revision, page 1645, which provides: "Whenever a * * * local board of health, to prevent the spread of dangerous diseases, destroys or orders to be destroyed, personal effects, it shall be the duty of the board to make an inventory of said personal goods and certify the value thereof * * * to the municipal authorities, who shall pay over to the owner of the goods the sum so certified."

The plaintiff, Cook, in his suit, which was tried in the Monmouth county circuit court, before the Supreme Court Justice Fort, contended that the board of health could not, as a matter of law, enter his property or establish a quarantine in case of infectious disease or destroy his property upon the theory that it was infected, and contended that the board of health was liable for not only actual damages, but punitive damages for all these proceedings. In answer to this insistence of the plaintiff, the board of health and the inspector showed that the board was a body corporate under the General Health act of 1887; that it was organized by the city of Asbury Park by an ordinance; that it had found upon the plaintiff's premises, at the time of the alleged trespass, a contagious disease, dangerous to the public health, and in order to prevent the spread of that disease the board of health ordered the destruction of the plaintiff's goods, which were in the infected house and likely to be infected.

The board of health also relied upon the fifteenth section of the act of 1887, revision, page 1638, which provides: "That no suit shall be maintained in any of the courts of this State to recover damages against any such board, its officers or agents on proceedings had and maintained by them, to abate and remove such nuisances and cause of disease unless it shall be shown in such suit that the alleged nuisance and cause of disease did not exist, and that the same was not hazardous and prejudicial to the public health, and unless it be shown that the said board acted without reasonable and probable cause to believe that such nuisance did exist, and that such foul or noxious odors, gases, vapors or other cause was in fact prejudicial and hazardous to the public health."

The board of health also relied upon the act of 1892, revision, sub-section 3, page 1644, giving it power to establish a quarantine. The court held, as a matter of the law, that none of the statutes found in the health laws released the inspector from liability for damages for the value of the goods, but as to the

MONMOUTH COUNTY—*Continued.*

suit against the board of health a nonsuit was directed, the court holding that the proof did not show that the board of health had brought itself within the required proof to make it liable. In dealing with the statute of 1887, hereinbefore referred to, which prohibited any suit against any agent or officer of the health board unless certain conditions existed, the court held that that statute could not be pleaded against a claim for damages for the value of property, that is, that goods on the infected premises, which might be infected, could not be destroyed without making the officer liable for their value. This view of the court, which seemed to be in opposition to the provisions of the above statute, which was designed for the protection of inspectors acting in good faith, required that an appeal be taken, and accordingly the inspector has placed the entire record before the court of errors of this State for final decision. Naturally, the questions involved in this appeal are of vital importance to health boards and their agents, for, if inspectors are liable for the actual or fancied value of goods which are destroyed in order to prevent the spread of an epidemic, it will be difficult for health boards to secure the services of efficient inspectors. The decision of the court of errors is expected in this case to be filed at the present term of court.

The Asbury Park health board was defendant in another suit taken to the supreme court by one Herman Rosenthal, on *certiorari*, the present year, and the decision in that case constitutes a precedent in regard to the procedure and power of health boards concerning a class of nuisances created by depositing refuse matter on private property, &c. The health board filed a complaint against the defendant, setting forth that he had deposited garbage and waste fluids, which were foul and offensive, upon his property in Asbury Park in violation of the health ordinance prohibiting such acts. Rosenthal was convicted and fined \$25. He took a *certiorari* to the supreme court, and that court, in the February term, held that the proceedings were entirely legal and dismissed the *certiorari*. Rosenthal has since paid his fine and costs. In that case Rosenthal challenged the proceedings upon many fundamental grounds, so that the case may be consulted with confidence by health boards having a similar ordinance; for instance, the objections were—*first*, that health boards had no power to institute such a proceeding; *second*, that the complaint filed was not legal; *third*, that the justice was without jurisdiction; *fourth*, that the board of health had no power to pass the ordinance in question; *fifth*, that the defendant, instead of being prosecuted for the violation of an ordinance, should have been prosecuted, if guilty, for the maintenance of a nuisance; *sixth*, that the conviction was contrary to law. All these objections were overruled. The form of the conviction used was the statutory form found in General Statutes, page 1642, section 3.

The board of health of Asbury Park was connected with another legal proceeding based upon one of its ordinances brought against a fish and oyster dealer the past season. The health board adopted an ordinance prohibiting the depositing of oyster shells upon any private property and permitting the same to accumulate, so as to be obnoxious. The oyster dealer in question violated this ordinance and he was prosecuted and convicted, and fined \$25. He appealed to the common pleas judge of Monmouth county for a review of the proceedings, under the statute which permits such a review to be had summarily. The entire record in that case was before the court and was held to be in accordance with law. The oyster dealer paid his fine.

MONMOUTH COUNTY—*Continued.*

Atlantic Highlands Borough.—MEMBERS AND OFFICERS—John E. Foster, Chas. Van Martin, Thos. H. Leonard, Peter S. Conover, Jr., A. G. Hall, Wm. Kelly, Russell G. Andrews; W. N. Snedeker, Secretary; Frederick Linden, Inspector; Wilson Stryker, Assistant Inspector.

The borough was organized 1879. Population in 1880, 150; population in 1900, 1,800; estimated summer population, 1902, 5,000 to 6,000. Miles of streets, 18. The borough is supplied with electric lights owned by the city. The public water-mains have been extended 645 feet during the past year. Total number of dwellings connected with water-mains, 340, of which number 14 were added during the year. Garbage is collected under contract during the summer months and is removed from dwellings three times each week and daily from hotels and boarding-houses. The cost of collection and removal of garbage for the past year was \$1,175. Eleven nuisances were abated. Four meetings were held.

Atlantic Township.—MEMBERS AND OFFICERS—Henry W. Buck, Marlboro; Daniel Shults, Tinton Falls; S. Stafford Smock, Colt's Neck; Chas. Sherman, Colt's Neck.

Avon Borough.—MEMBERS AND OFFICERS—H. L. Walker, Alex. D. May, James M. Newman; H. M. Dolan, Secretary; James Braughton, Inspector.

Ninety-seven dwellings are connected with the public water-mains and four connections have been made with sewers during the year. Seven meetings were held.

Belmar Borough.—MEMBERS AND OFFICERS—Dr. C. R. Treat, Wm. M. Bergen, Frank P. Philbrick, Neil H. Miller, Joab Titus, Cyrus B. Hance, Paul C. Taylor; Chas. O. Hudnut, Secretary; Samuel C. Hoppock, Inspector.

This borough was incorporated in 1886. Estimated population, 1,000. Communicable diseases were reported as follows: Diphtheria, 2; scarlet fever, 2; typhoid fever, 3. Dwellings connected with water-mains, 390. The borough expends \$500 each year in the collection of garbage. Eight meetings were held.

MONMOUTH COUNTY—*Continued.*

Bradley Beach Borough.—MEMBERS AND OFFICERS—Peter Poland, Samuel Borden, Johnson Rogers, George Herbert; Samuel B. Murphy, Secretary.

One case of diphtheria and 1 case of typhoid fever were reported. One meeting was held.

Eatontown Township.—MEMBERS AND OFFICERS—W. N. Kurtz, M.D., Eatontown; Benj. Eldridge, Oceanport; Wm. Slocum, West Long Branch; E. W. Crater, M.D., Oceanport; D. S. Morris, Secretary, Eatontown; A. L. Scobey, Registrar; Thos. Dickinson, Inspector, Eatontown.

Five cases of diphtheria and 1 of typhoid fever occurred. Three nuisances were abated.

Englishtown Borough.—No organized board of health.

Town of Freehold.—MEMBERS AND OFFICERS—I. S. Long, M.D., W. S. Coombs, M.D., H. S. Brown, M. D., W. H. Ingling, S. L. Bennett, Ezekial D. Clayton; Theodore Sickles, Secretary; R. V. Lawrence, Registrar.

Estimated population, 3,000. Communicable diseases were reported as follows: Diphtheria, 11; scarlet fever, 3; typhoid fever, 1. Total number of dwellings connected with public water-supply, 498. Twenty nuisances were abated. Gratuitous vaccination was offered by the board during the year. Three meetings were held.

Freehold Township.—MEMBERS AND OFFICERS—Peter F. Conover, Freehold; Millard F. Conover, Freehold; John P. Walker, Freehold; John B. Parker, Smithburg; Rulif V. Lawrence, Secretary, Freehold; Harry Neafie, M.D., Inspector, Freehold.

One case of diphtheria occurred. One meeting was held.

Highlands Borough.—MEMBERS AND OFFICERS—A. R. Reid, John Foster, Alex. Weaver, Edward Layton; Silvanos Liming, Secretary; Chas. J. Parker, Inspector; George Henney, Inspector.

Estimated population, 1,250. Twenty-five nuisances were abated. Six meetings were held.

Holmdel Township.—MEMBERS AND OFFICERS—Wesley Mason, Keyport; Jonathan J. Holmes, Holmdel; Jacob O. Lumbertson, Hazlet; Aaron Longstreet, Secretary, Keyport; Dr. Fred V. Thompson, Inspector, Holmdel.

MONMOUTH COUNTY—*Continued.*

Howell Township.—MEMBERS AND OFFICERS—Chas. A. Palmer, M.D., Farmingdale; B. M. Cooper, Lakewood; Robert H. Morris, Adelphia; Chas. E. Ferry, Farmingdale; James H. Butcher, Secretary, Ardena.

Three cases of typhoid fever occurred. Four nuisances were abated. Five meetings were held.

Long Branch.—MEMBERS AND OFFICERS—John W. Bennett, M.D., Louis Rothenberg, M. C. Burns, John A. Eaton, Harry W. Green, B. D. Wooley; E. B. Blaisdell, Secretary; James Millmore, Inspector; Samuel F. McCloud, Inspector.

Estimated population, 9,500. Communicable diseases were reported as follows: Diphtheria, 23; scarlet fever, 9; small-pox, 1. Forty-four cases of typhoid fever were reported, but 38 of these were in the Memorial hospital and the remaining 6 cases occurred in the persons of summer residents. About one-half of the dwellings are connected with the public water-supply. Number of complaints investigated, 3,650. Number of nuisances abated, 3,647. Free vaccination has been offered during the year. Twenty-six meetings were held.

Manalapan Township.—MEMBERS AND OFFICERS—Edward Hendrickson, Manalapan; Daniel S. Aumack, Englishtown; Joseph C. Sutphen, Tennent; Garret B. Conover, Secretary, Englishtown; Samuel C. Bowne, Registrar, Tennent; Asher T. Applegate, M.D., Inspector, Englishtown.

Two nuisances were abated. Four meetings were held.

Manasquan Borough.—MEMBERS AND OFFICERS—A. Howell Miller, John Chapman, George H. Mount; Ernest Koch, Secretary; Robert M. Marks, Inspector.

Estimated population, 1,600. One case of typhoid fever was reported. Three nuisances were abated. Gratuitous vaccination has been offered to the public. Seventeen meetings were held.

Middletown Township.—MEMBERS AND OFFICERS—John Woodward, Atlantic Highlands; D. W. Van Note, Belford; G. C. Morris, New Monmouth; Henry D. Smith, Secretary, Middletown; Omar Sickles, Registrar, Navesink; Dr. O. W. Budlong, Inspector, Belford.

One case of scarlet fever was reported. Five meetings were held.

MONMOUTH COUNTY—*Continued.*

Millstone Township.—MEMBERS AND OFFICERS—J. H. Ely, Perrineville; John B. Ely, Ely; Perrine Dey, Perrineville; George J. Ely, Secretary, Perrineville; W. T. MacMillan, Inspector, Perrineville.

Five cases of diphtheria occurred. Three meetings were held.

Neptune City Borough.—MEMBERS AND OFFICERS—James Estelle, John Slocum, Chas. Southard; Whitfield Smith, Secretary; C. H. Morris, Inspector. All of Avon. R. V. Lawrence, Attorney, Asbury Park.

Estimated population, 750. Twelve dwellings are connected with the public water-supply. Four nuisances were abated. There are 118 unvaccinated school children. Monthly meetings were held.

Neptune Township.—MEMBERS AND OFFICERS—Harry G. Shreve, Ocean Grove; D. E. Havens, Asbury Park; John Hulshart, Asbury Park; Dr. J. Turner Rose, Asbury Park; Wm. R. O'Brien, Secretary, Asbury Park.

Communicable diseases were reported as follows: Diphtheria, 7; scarlet fever, 8; typhoid fever, 2; small-pox, 3. Five hundred dollars is expended yearly in the removal and disposal of garbage. Fifteen meetings were held.

Ocean Grove.—MEMBERS AND OFFICERS—A. E. Ballard, J. L. Hayes, Geo. W. Evans, J. R. Daniels, J. H. Alday, M.D.; H. B. Alday, M.D., Secretary.

Estimated winter population, 2,200. Total number of dwellings connected with public water-supply, 1,330. The expenditure during the fiscal year for the collection and removal of garbage was \$1,500. Number of nuisances abated, 29. Eight meetings were held.

Ocean Township.—MEMBERS AND OFFICERS—Thos. R. Wooley, Long Branch; James W. Conover, Elberon; Joseph M. Flannigan, Long Branch; Howard A. Brinley, Secretary, Long Branch; Harry E. Shaw, M.D., Inspector, Long Branch.

Three meetings were held.

Raritan Township.—MEMBERS AND OFFICERS—Leonard D. Roberts, John S. Hendrickson, John W. Mason; Wm. C. Smith, Secretary. All of Keyport.

MONMOUTH COUNTY—*Continued.*

Town of Red Bank.—MEMBERS AND OFFICERS—Charles D. Warner, John Sheehan, Franklin P. Stryker, Dr. B. H. Garrison; James H. Sickles, Secretary; Theodore F. Sniffen, Inspector.

Estimated population, 5,550. Five cases of diphtheria, 3 of scarlet fever, 2 of typhoid fever and 3 of small-pox were reported. An isolation hospital for the care of small-pox patients is provided. Monthly meetings are held.

Shrewsbury Township.—MEMBERS AND OFFICERS—Wm. C. Armstrong, Red Bank; Wm. T. Parker, Little Silver; Forman R. Smith, Fair Haven; Wm. A. Van Schoick, Red Bank; A. C. Harrison, Secretary, Red Bank; A. L. Ivins, Registrar, Red Bank; Wm. Curchin, Inspector, Fair Haven.

Communicable diseases were reported as follows: Diphtheria, 5; scarlet fever, 1; small-pox, 11. Thirty meetings were held.

Spring Lake Beach Borough.—MEMBERS AND OFFICERS—H. P. Brown, Richard T. Devine, W. D. Robinson; Ellwood H. Newman, Secretary; S. K. Knight, Inspector.

Estimated population, 500. Two cases of scarlet fever occurred. One hundred dwellings are connected with public water-mains. The annual cost of garbage collection and disposal was \$600. Two complaints were investigated. Gratuitous vaccination was offered to the public. Six meetings were held.

Upper Freehold Township.—MEMBERS AND OFFICERS—I. S. Dawes, Imlaystown; E. A. Hyers, Red Valley; F. C. Price, M.D., Secretary, Imlaystown; Wm. Quicksell, Registrar, Hornerstown.

Two nuisances were abated. Two meetings were held.

Wall Township.—MEMBERS AND OFFICERS—Henry Stones, Belmar; Chas. Gifford, Allenwood; Chas. White, Como; W. W. Trout, M.D., Spring Lake; Geo. E. Rogers, Secretary, New Bedford.

Communicable diseases were reported as follows: Diphtheria, 8; scarlet fever, 7; typhoid fever, 6. Two nuisances were abated. Six meetings were held.

MORRIS COUNTY.

Town of Boonton.—MEMBERS AND OFFICERS—Charles Brock, Thomas Capstick, Wm. Q. Powers, John E. Dunn; M. L. Brower, Secretary; Albert E. Estler, Inspector.

Boonton Township.—MEMBERS AND OFFICERS—W. R. Bailey, Andrew Kincaid, James H. Hopler; Geo. W. Blanchard, Secretary. All of Boonton.

One meeting was held.

Butler Borough.—MEMBERS AND OFFICERS—Dr. G. C. Coats, Butler; E. P. Smythman, Butler; Rudolph Guenther, Butler; Allan Looker, Bloomingdale; Dr. Samuel K. Owen, Secretary, Butler.

This borough was incorporated in 1901. Estimated population, 2,365. Twenty cases of scarlet fever and 2 of typhoid fever occurred. Five nuisances were abated. Monthly meetings are held.

Chatham Borough.—MEMBERS AND OFFICERS—Joseph H. Conklin, Wm. Hendershot, W. J. Wolfe, M.D., Geo. E. Hall; D. H. Crawford, Secretary; Wesley R. Conklin, Inspector.

Estimated population, 1,600. One case of scarlet fever occurred. Number of dwellings connected with the public water-supply, 174. Complaints investigated, 16. Nuisances abated, 7. Eleven meetings were held.

Chatham Township.—MEMBERS AND OFFICERS—Louis M. Noe, Madison; Chas. L. Chovey, Madison; Chas. A. Johnson, New Providence; C. W. Scarborough, M.D., Madison; Nathaniel Clark, Secretary; J. Herbert Bebout, Registrar, New Providence.

Three cases of small-pox were reported. Two meetings were held.

Dover City.—MEMBERS AND OFFICERS—Eugene Buchanan, Frank J. Keifel, Chas. Hellender; J. H. C. Hunter, Secretary; John G. Taylor, Inspector.

Estimated population, 6,500. Communicable diseases were reported as follows: Diphtheria, 5; scarlet fever, 11; typhoid fever, 5; small-pox, 6. Total number of dwellings connected with water-mains, 550. Yearly cost of garbage collection and disposal, \$1,200. Number of nuisances abated, 200. Twenty-two meetings were held.

MORRIS COUNTY—*Continued.*

Florham Park Borough.—MEMBERS AND OFFICERS—Wm. A. Hopping, Florham Park; Frank M. Budd, Chatham; Nathan A. Felch, Florham Park; Chas. H. Genung, Madison; Henry W. Young, Secretary, Florham Park; Stuart H. Reed, M.D., Inspector, Madison.

One meeting was held.

Hanover Township.—MEMBERS AND OFFICERS—Phineas Farrand, Boonton; Alex. Webb, Hanover; T. J. Davis, Morris Plains; David A. Hopping, Florham Park; Joseph H. Bastedo, Secretary, Boonton; Dr. Harry Wheeler, Inspector, Whippany.

One meeting was held.

Jefferson Township.—MEMBERS AND OFFICERS—John Tierney, Horace W. Pullis, Cyrus Weaver, Dr. John Walters; Chas. Chamberlain, Secretary, Woodport.

Eight cases of scarlet fever were reported. Two meetings were held. The board reports that careful supervision has been exercised in all cases of communicable diseases.

Madison Borough.—MEMBERS AND OFFICERS—Calvin Anderson, Samuel Brant, Chas. B. Gee, J. N. Van DeWater; C. El. Cook, Secretary; S. Fred. Burnett, Inspector.

Estimated population, 4,000. Communicable diseases were reported as follows: Diphtheria, 7; scarlet fever, 5; typhoid, 3; small-pox, 1. Number of dwellings connected with public water-mains, 632. Number of complaints investigated, 306. Free vaccination has been offered to the public during the year.

Mendham Township.—MEMBERS AND OFFICERS—Geo. S. Bearers, Henry Gunther, George Savage; John Kennedy, Secretary; John D. Lindsley, Registrar; Dr. Geo. S. DeGroot, Inspector. All of Mendham.

One case of membranous croup, 16 cases of scarlet fever and 2 cases of typhoid fever were reported.

Montville Township.—MEMBERS AND OFFICERS—John H. Capstick, Montville; Joseph Starkey, Boonton; Asa T. Cook, Secretary, Montville.

One case of typhoid fever was reported. Four meetings were held.

MORRIS COUNTY—Continued.

Morris Township.—MEMBERS AND OFFICERS—C. M. Phillips, Morristown; Gates B. Parsons, Morris Plains; Lewis E. Clark, Morristown; H. S. Prudden, Morristown; W. E. Collins, Secretary, Morristown.

Two cases of diphtheria and 1 of scarlet fever occurred. Six nuisances were abated. Suit was brought in one case to restrain a nuisance caused by odorless excavation wagons, and an injunction was secured. Twelve meetings were held.

Mount Arlington Borough.—MEMBERS AND OFFICERS—R. J. Chaplin, M. F. Lowe, F. H. Tappen; D. T. Trundy, Inspector; H. C. Upchurch, M.D., Secretary; Cyrus E. Cook, Registrar.

Estimated summer population, 2,500. Two cases of typhoid fever occurred. The borough council expends \$300 each year for the removal of garbage. Four nuisances were abated. The school children of the borough are all vaccinated. Ten meetings were held.

Mount Olive Township.—MEMBERS AND OFFICERS—John G. Budd, Budd Lake; M. K. Sharp, Flanders; R. H. Stephens, Mount Olive; S. W. Salmon, Secretary, Mount Olive; W. S. Foster, M.D., Inspector.

Three meetings were held.

Mount Tabor Borough.—MEMBERS AND OFFICERS—S. S. Allison, Jersey City; F. N. Barrett, Bayonne; J. S. Shaw, Newark; T. A. Lowe, Secretary, Jersey City; J. C. Cox, Inspector, Tabor.

Estimated population, 1,500. Number of dwellings connected with public water-supply, 225.

Netcong Borough.—MEMBERS AND OFFICERS—James Dell, G. H. Lunger, James Flood, M. N. Mowder, Frank Lovely; Frank King, Secretary; John Miller, M.D., Inspector.

One case of diphtheria and 2 of small-pox occurred. Two nuisances were abated. Five meetings were held.

Passaic Township.—MEMBERS AND OFFICERS—Thomas F. Melee, Stirling; Henry Lindsley, Logansville; Geo. B. Meeker, Long Hill; J. A. Harvey, Secretary, Stirling; Dr. T. W. Bebout, Inspector, Stirling.

Two cases of diphtheria occurred. One meeting was held.

MORRIS COUNTY—*Continued.*

Pequanock Township.—MEMBERS AND OFFICERS—G. M. Roome, Lincoln Park; Chas. Cook, Butler; A. J. Slingland, Pompton Plains; Wm. H. Beem, Secretary, Pompton Plains; Dr. C. V. Romondt, Inspector, Pompton Plains.

Four cases of diphtheria occurred. Three meetings were held.

Randolph Township.—MEMBERS AND OFFICERS—Geo. A. Pool, Dover; James O. Wright, Jr., Mount Freedom; John L. Connelly, Mine Hill; D. H. Dalrymple, Registrar, Dover.

Communicable diseases were reported as follows: Diphtheria, 5; scarlet fever, 6; small-pox, 11. Five meetings were held.

Rockaway Borough.—MEMBERS AND OFFICERS—E. H. Todd, Geo. S. Dearborn, M.D., Geo. H. Foster, M.D., M. B. Strait, Wm. McKinnon; Wm. May, Secretary; Wm. Parliaman, Registrar; H. R. Dobbins, H. R. Watson, Inspectors.

Estimated population, 2,000. Two cases of diphtheria and 1 of typhoid fever occurred. Three nuisances were abated. Four meetings were held.

Rockaway Township.—MEMBERS AND OFFICERS—Daniel Dickerson, Den-ville; Anthony Vanderbilt, Hibernia; Thomas Grant, Hibernia; Dr. F. W. Flagge, Rockaway; David A. Wiggins, Secretary, Rockaway.

Three cases of diphtheria and 4 of scarlet fever were reported. One nuisance was abated. Four meetings were held.

Roxbury Township.—MEMBERS AND OFFICERS—T. F. King, Ledgewood; D. B. Jardine, Kenville; Geo. Shields, Port Morris; E. N. Corwin, Secretary, Succasunna; N. H. Adsit, M.D., Inspector, Succasunna.

One case of diphtheria and 7 cases of scarlet fever occurred. One nuisance was abated. Five meetings were held.

Washington Township.—MEMBERS AND OFFICERS—John A. Parker, Schooley's Mountain; Dr. Sutton, German Valley; Mahlon VanNest, German Valley; Mathias Fleming, Parker; Geo. H. Sliker, Secretary, Pleasant Grove.

Four cases of diphtheria and 2 of small-pox occurred. Free vaccination was offered to the public by the board. Six meetings were held.

MORRIS COUNTY—*Continued.*

Wharton Borough.—MEMBERS AND OFFICERS—H. W. Kice, M.D., Robert F. Oram, Miller P. Castner; James Williams, Secretary; Wm. J. Chegwidden, Registrar; Daniel Kettrick, Inspector.

Estimated population, 2,300. One case of scarlet fever, 2 of typhoid fever and 1 of small-pox occurred. Five nuisances were abated. Ten meetings were held.

OCEAN COUNTY.

Bayhead Borough.—No organized board of health. Julius Foster, Assessor.

Two cases of typhoid fever occurred. Total number dwellings connected with public water-main, 115.

Beach Haven Borough.—MEMBERS AND OFFICERS—John F. Fox, Thomas Cale, Thomas E. Gifford; W. F. Beer, Secretary; T. A. Gavin, Registrar.

This borough was organized in 1891. The winter is 300, and the summer population, 3,000. The borough is one mile square. One case of typhoid fever occurred. Garbage is collected under borough contract, and \$300 a year is expended for this purpose. Three meetings were held.

Berkley Township.—MEMBERS AND OFFICERS—Ernest Worth, Thomas J. Harvey, Wm. H. Potter; Devine Butler, Secretary. All of Bayville.

Two cases of diphtheria and 1 of typhoid fever were reported. A large number of the school children are vaccinated. Three meetings were held.

Dover Township.—MEMBERS AND OFFICERS—E. W. Polhemus, Silverton; R. B. Gowdy, Toms River; A. Dunham, Toms River; Peter Tilton, Secretary, Toms River.

Five cases of diphtheria and 3 of typhoid fever were reported. Two nuisances were abated and three meetings were held.

OCEAN COUNTY—*Continued.*

Eagleswood Township.—MEMBERS AND OFFICERS—P. R. Sprague, West Creek; J. P. Haywood, West Creek; A. J. Leigh, West Creek; T. T. Price, M.D., Tuckerton; E. F. Cranmer, Secretary, West Creek.

Three meetings were held.

Jackson Township.—MEMBERS AND OFFICERS—George Estel, Van Hiseville; A. C. Emley Cassville; George C. Hankins, Van Hiseville; W. S. Hendrickson, Secretary, Jackson's Mill.

Lacey Township.—MEMBERS AND OFFICERS—George Frazee, Forked River; A. G. Wilbert, Forked River; Reuben Tilton; B. F. Mathews, Secretary, Forked River; Dr. G. E. Wallace, Inspector, Forked River.

Six cases of scarlet fever and 4 of small-pox were reported. One nuisance was abated. About one-half of the school children are vaccinated. Three meetings were held.

Lakewood Township.—MEMBERS AND OFFICERS—Peter V. Hoyt, John L. Reid, Wm. Sculthorp; Ernest E. LeCompte, Secretary; Richard B. Robbins, Inspector. All of Lakewood.

Estimated population, 3,600. Communicable diseases were reported as follows: Diphtheria, 4; scarlet fever, 8; typhoid fever, 3. Two meetings were held.

Little Egg Harbor Township.—MEMBERS AND OFFICERS—Geo. W. Mott, Tuckerton; James Ludlow, Tuckerton; Norwood Parker, Parkertown; J. L. Lane, M.D., Secretary, Tuckerton; Wm. Speck, Registrar, Tuckerton.

There are 100 unvaccinated children in the schools.

Manchester Township.—MEMBERS AND OFFICERS—Charles Stults, Alfred W. Carr, Frank Curtis; Harold Pittis, M.D., Secretary, Lakehurst; Walter A. Larrabee, Registrar.

One nuisance was abated. One meeting was held.

Ocean Township.—MEMBERS AND OFFICERS—Chas. F. Jones, Oscar D. Brown, Wm. B. Wilkins; J. H. Wilkins, Secretary. All of Waretown.

One case of typhoid fever occurred. One meeting was held.

Plumsted Township.—MEMBERS AND OFFICERS—Wm. Robbins, New Egypt; Elmer Cowperthwait, New Egypt; Dayton Hopkins, Horners-town; Daniel W. Bussom, Secretary, New Egypt.

OCEAN COUNTY—*Continued.*

Point Pleasant Beach Borough.—MEMBERS AND OFFICERS—R. L. Wack, Geo. C. Newberry, W. W. Conover, Frank Bennett; W. E. Pearce, Secretary; H. F. Egbert, Registrar.

Estimated population, 800. Five nuisances were abated. Three meetings were held.

Seaside Park Borough.—No organized board of health.

Stafford Township.—MEMBERS AND OFFICERS—Joshua Hilliard, Manahawken; Chas. H. Cranmer, Manahawken; Edward E. Predmore, Manahawken; Geo. A. Cranmer, Cedar Run; John B. Courtney, Secretary.

Four cases of typhoid fever were reported. There are at least 200 unvaccinated children in the schools. One meeting was held.

PASSAIC COUNTY.

Acquackanonk Township.—MEMBERS AND OFFICERS—Henry Frederick, Delawanna; S. Grant Thurburn, Clifton; Eugene Pidget, Richfield; Richard Berry, Secretary, Clifton.

The population by census of 1900 was 5,351, and it is estimated that the present population is about 6,000. The total length of the streets of the township is about 50 miles. Forty arc lamps are supplied for street lighting. Eight cases of diphtheria, 6 of scarlet fever and 1 of typhoid fever were reported. Eight nuisances were abated. Gratuitous vaccination was furnished to school children. Four meetings were held.

Hawthorne Borough.—MEMBERS AND OFFICERS—Wm. Gurnee, Hawthorne; Wm. Kimble, North Paterson; Wm. Rodgers, North Paterson; Frank Garrison, Hawthorne; John L. Burt, Secretary, North Paterson; S. E. Barnes, Registrar, North Paterson; Dr. A. B. Vanderbeek, Inspector, Paterson.

Estimated population, 2,500. Communicable diseases were reported as follows: Diphtheria, 5; scarlet fever, 4; typhoid fever, 3; small-pox, 2. Four nuisances were abated. Twelve meetings were held.

PASSAIC COUNTY—*Continued.*

Little Falls Township.—MEMBERS AND OFFICERS—James C. Stanley, S. P. Hansen, F. W. Bussing; B. H. Stanley, Registrar; Dr. W. W. MacAlister, Inspector. All of Little Falls.

Two cases of diphtheria and 2 of scarlet fever were reported. Five nuisances were abated. Gratuitous vaccination was offered during the year. Seven meetings were held.

Manchester Township.—MEMBERS AND OFFICERS—Chas. Erving, Samuel Rogers, John D. Ulrich; Chas. H. Banta, Secretary. All of Haledon. Dr. A. A. Lydecker, Inspector.

Thirteen cases of diphtheria were reported. Twelve meetings were held.

North Haledon Borough.—MEMBERS AND OFFICERS—Wm. H. Robinson, Joseph Graham, Chas. Schmitz, Ralph Torbet, Wm. Fotz; Wm. J. Elli, Secretary; A. A. Lydecker, Emile Deltricks, Inspectors. All of Haledon.

Estimated population, 500. One nuisance was abated. Fourteen meetings were held.

Passaic City.—MEMBERS AND OFFICERS—John J. Slator, Wm. F. Gaston, David R. Crounse, M.D., P. J. Delaney, Charles White; Gilbert D. Bogert, Secretary; Geo. F. Greer, Registrar; W. S. Clearwater, Health Inspector; J. Payne Lowe, D. V. S.; W. B. Davidson, Plumbing Inspector.

Estimated population, 30,000. Communicable diseases were reported as follows: Diphtheria, 61; scarlet fever, 66; typhoid, 22; small-pox, 15; measles, 174. An isolation hospital for the care of infectious diseases is located on the outskirts of the city. Total number of dwellings connected with the public water-supply, 2,900. Amount expended during the year for the collection and disposal of garbage, \$6,240. Ninety complaints were investigated. Forty nuisances were abated. Medical inspection of schools has been established in this city. Gratuitous vaccination was offered to the public during the year. Eleven meetings were held.

Pompton Lakes Borough.—MEMBERS AND OFFICERS—John L. Porter, James Fraser; Horace L. Wells, Secretary; Dr. J. C. Morgan, Inspector.

Estimated population, 1,000. Fourteen cases of scarlet fever occurred. Six nuisances were abated. Ten meetings were held.

PASSAIC COUNTY—*Continued.*

Prospect Park Borough.—MEMBERS AND OFFICERS—Andrew J. Hopper, John F. Sandford, Garret Planten, George Bell; Jacob Doeke, Secretary; Dr. A. A. Lydecker, Inspector, Haledon.

Estimated population, 1,250. Communicable diseases were reported as follows: Diphtheria, 9; scarlet fever, 2; typhoid fever, 1; small-pox, 2. Twenty-two dwellings are connected with the public water-supply. Two nuisances were abated. Gratuitous vaccination was offered to the public during the year. Eleven meetings were held.

Totowa Borough.—MEMBERS AND OFFICERS—Daniel Doughaen, Joseph Boyle, Henry V. Wilson; Wilbur DeMott, Secretary; Dr. Alexander, Inspector. All of Paterson.

Estimated population, 515. One case of scarlet fever and 1 of small-pox were reported. One nuisance was abated. Three meetings were held.

Wayne Township.—MEMBERS AND OFFICERS—Wm. H. Birchenough, Paterson; Geo. W. Colfax, Pompton; Wm. F. Hosier, Mountain View; Wm. Wilkins, Secretary, Singac.

Two cases of diphtheria and 1 of small-pox occurred. Four nuisances were abated. Ten meetings were held.

West Milford Township.—MEMBERS AND OFFICERS—Chilleon Laroe, Newfoundland; Wm. Eckhart, Newfoundland; Martin J. Shippee, Echo Lake; Theo. Coursen, M.D.; Celestine Schulster, Secretary, Echo Lake.

Two cases of typhoid fever and 1 of small-pox were reported. Two meetings were held.

SALEM COUNTY.

Alloway Township.—MEMBERS AND OFFICERS—John H. Vanleer, Freasburg; James Osborn, Alloway; Chas. Timberman, Alloway; Wm. E. Simkins, Secretary, Aldine; Dr. Warren Ewen, Inspector, Alloway.

One case of bovine tuberculosis was reported.

SALEM COUNTY—*Continued.*

Elsinboro Township.—MEMBERS AND OFFICERS—Isaac Harris, Salem; Abel Harris, Salem; A. Smith Reeves, Salem; Chas. P. Farnhoff, Secretary, Salem.

Three meetings were held.

Lower Penns Neck Township.—MEMBERS AND OFFICERS—Joel H. Jenkins, Salem; Albert Baten, Pennsville; David F. Dixon, Pennsville; F. L. Carpenter, Pennsville; J. G. Mitchell, Secretary, Pennsville; W. H. James, M.D., Inspector, Pennsville.

Three cases of typhoid fever occurred. Three cases of anthrax were reported. About one-half of the school children are unvaccinated. Three meetings were held.

Oldmans Township.—MEMBERS AND OFFICERS—Henry Reymer, Pedricktown; Frank J. Gaventa, Pedricktown; Joseph Roberts, Auburn; Levi C. Justice, Secretary, Pedricktown.

Two cases of scarlet fever and 4 of typhoid fever occurred. One case of bovine tuberculosis was reported. One meeting was held.

Pennsgrove Borough.—MEMBERS AND OFFICERS—Richard F. Shannon, Walter S. Springer, John C. Simpkins, Warren C. English; Henry M. Flannagin, M.D., Secretary.

Estimated population, 2,000. Eleven cases of scarlet fever and 6 of typhoid fever were reported. Seven complaints were investigated and 4 nuisances were abated. There are about 100 unvaccinated school children. Twelve meetings were held.

Pilesgrove Township.—MEMBERS AND OFFICERS—S. A. Ridgway, Woodstown; Edgar C. Moore, Woodstown; Clement McAllister, Sharpstown; D. F. Davis, Secretary, Woodstown.

Two meetings were held.

Pittsgrove Township.—MEMBERS AND OFFICERS—A. J. Fox, John Dillmore, C. S. Atkinson; Geo. Schalick, Secretary, Centreton.

Four cases of diphtheria and 3 of typhoid fever occurred. Three nuisances were abated. Five meetings were held.

SALEM COUNTY—*Continued.*

Quinton Township.—MEMBERS AND OFFICERS—Andrew Harris, Quinton; Watson Davis, Shiloh; Chas. H. Fox, Secretary, Alloway; Josiah T. Harris, Registrar, Quinton; Dr. Wm. T. Good, Inspector, Quinton.

One case of diphtheria occurred. One meeting was held.

Salem City.—MEMBERS AND OFFICERS—Louis Hoelzel, Ellen B. Smith, M.D., Thomas Hewes, Edward J. Gayner, C. L. Sinnickson; Clinton Bowen, Secretary; A. T. Walton, Inspector.

Estimated population, 6,000. Communicable diseases were reported as follows: Diphtheria, 3; scarlet fever, 6; typhoid fever, 3; small-pox, 2. Number of dwellings connected with the public water-supply, 680. Number of complaints investigated, 112. Number of nuisances abated, 87. Seven meetings were held.

Upper Penns Neck Township.—MEMBERS AND OFFICERS—John M. Bevis, Joseph E. Clark, Miller Layton; Geo. W. Hewitt, Secretary, Pennsgrove.

One meeting was held.

Upper Pittsgrove Township.—MEMBERS AND OFFICERS—Wm. Mayhew, Pittsgrove; Henry Coombs, Shirley; Nathaniel Wilkinson, Whiglane; R. A. Robinson, Secretary, Monroeville; Dr. Fitch, Inspector, Daretown.

Two cases of scarlet fever and 2 of diphtheria occurred. Two meetings were held.

SOMERSET COUNTY.

Bedminster Township.—MEMBERS AND OFFICERS—Chas. Hoffman, Pottersville; R. B. Duyckinck, Lamington; Joseph M. Pickell, Peapack; W. D. Vanderbeek, Secretary, Gladstone; E. F. Farrow, M.D., Inspector, Peapack; M. C. Smalley, M.D., Inspector, Gladstone; J. B. Beekman, M.D., Inspector, Pluckamin.

The board was organized May 10th, 1902. Two meetings were held.

SOMERSET COUNTY—*Continued.*

Bernards Township.—MEMBERS AND OFFICERS—Van Cleve Meeker, Bernardsville; Thomas Douglass, Bernardsville; Henry Scheuerman, Basking Ridge; S. S. Baldwin, Secretary, Liberty Corner.

Four cases of scarlet fever were reported. Three nuisances were abated. Six meetings were held.

Bound Brook Borough.—MEMBERS AND OFFICERS—R. H. Brokaw, C. R. P. Fisher, M.D., W. H. Brokaw; W. S. Negus, Secretary; Chas. McNabb, Registrar.

Estimated population, 3,000. Nine cases of diphtheria were reported. Dwellings connected with public water-mains, 323. Two meetings were held.

Branchburg Township.—MEMBERS AND OFFICERS—P. B. Brokaw, Neshanic; H. B. Van Nest, North Branch; J. C. Stryker, North Branch; James Mingle, North Branch; Lester Shurts, Secretary, Neshanic; Wm. H. Merrill, M.D., Inspector, South Branch.

One meeting was held.

Bridgewater Township.—MEMBERS AND OFFICERS—John H. Martle, Martinsville; James Q. TenEyck, Somerville; Oscar Dow, Raritan; C. L. Voorhees, Secretary, Somerville; L. M. Lanning, M.D., Inspector, Somerville.

Communicable diseases were reported as follows: Diphtheria, 5; scarlet fever, 1; typhoid, 1; small-pox, 3. Two nuisances were abated. Four meetings were held.

Franklin Township.—MEMBERS AND OFFICERS—Wm. A. Cortelyou, Rocky Hill; Nathaniel Wilson, Weston; Samuel Voorhees, Middlebush; L. J. Suydam, Secretary, New Brunswick; Dr. J. Howard Cooper, Inspector, Middlebush.

Eleven cases of diphtheria and 3 of scarlet fever were reported. Two meetings were held.

Hillsborough Township.—MEMBERS AND OFFICERS—J. V. M. Sutphen, Three Bridges; J. Vred. Opie, Somerville; G. Spencer, VanCleeef, Millstone; Wm. H. Merrell, M.D., Secretary, South Branch; Joseph H. VanCleeef, Registrar, Millstone.

One meeting was held.

SOMERSET COUNTY—*Continued.*

Millstone Borough.—MEMBERS AND OFFICERS—Wm. Esler, E. M. Davis, J. H. Hagaman, John P. Ditmars, Wm. C. Kitchen; Wm. H. Polhemus, Secretary; Edward T. Wright, Registrar; S. O. B. Taylor, M.D., Inspector.

Montgomery Township.—MEMBERS AND OFFICERS—J. S. Whitlock, Blawenburg; M. N. Staats, Griggstown; Geo. W. Campbell, Secretary, Griggstown; Clayton Allshouse, Registrar, Harlingen.

Communicable diseases were reported as follows: Diphtheria, 1; typhoid fever, 4; small-pox, 1. Bovine tuberculosis was reported as existing in two herds of cattle. Four meetings were held.

North Plainfield Borough.—MEMBERS AND OFFICERS—Andrew Love, D. C. Adams, M.D., B. J. Shreve, John McLaughlin; Rev. W. E. Honeyman, Secretary; Wm. N. Pangborn, Inspector.

Estimated population, 5,000. Communicable diseases were reported as follows: Diphtheria, 17; scarlet fever, 16; typhoid, 6. Number of nuisances abated, 171. All school children are vaccinated. Four suits were brought for violation of ordinances, and in each case the judgment was in favor of the board. Three persons were sent to the county jail for 30 days for persistent violation of quarantine regulations. Free vaccination was offered to the public by the board. Eleven meetings were held.

North Plainfield Township.—MEMBERS AND OFFICERS—Chas. P. Sebring, Dunellen; Thos. H. Taylor, Plainfield; Benjamin Clark, Scotch Plains; A. P. Voorhees, Secretary, Plainfield; George N. Steward, Inspector, Plainfield.

Four cases of diphtheria occurred. Two meetings were held.

Town of Somerville.—MEMBERS AND OFFICERS—Aaron L. Stillwell, M.D., John B. Osborne, Thos. H. Flynn, M.D., John E. Wehrly; Wm. R. Sutphen, Secretary; Geo. D. Totten, Inspector.

Estimated population, 5,000. Communicable diseases were reported as follows: Diphtheria, 27; scarlet fever, 3; typhoid fever, 1. About 1,000 dwellings are connected with public water-mains. Number of complaints investigated, 75. Number of nuisances abated, 75. There are no unvaccinated school children. Eleven meetings were held.

SOMERSET COUNTY—*Continued.*

Warren Township.—MEMBERS AND OFFICERS—Henry Rogers, Plainfield; Henry P. Williams, Warrentville; Frank Allette, Warrentville; Peter Newmiller, Secretary, Warrentville.

Four cases of scarlet fever were reported. One meeting was held.

Rocky Hill Borough.—MEMBERS AND OFFICERS—W. N. Stults, A. Robbins, E. R. Logan, F. F. Stryker; Stephen Voorhees; A. C. Skirm, Registrar.

Estimated population, 375. Three cases of diphtheria and 5 of typhoid fever occurred. The sanitary condition of the public school-house is said to be unsatisfactory

SUSSEX COUNTY.

Andover Township.—MEMBERS AND OFFICERS—J. C. Clark, M.D., Andover; C. C. Cox, Newton; Wm. M. Slater, Newton; B. K. Stiff, Andover; Wm. Iliff, Secretary, Newton.

Forty-six cases of diphtheria, of which 22 were fatal, and 2 fatal cases of typhoid fever, were reported. Three nuisances were abated. Three meetings were held.

Branchville Borough.—MEMBERS AND OFFICERS—Dr. E. S. Dalrymple, James M. Jarvis, John A. Quick, Wm. D. Price, DeAlton Dilliston; H. N. Kymer, Registrar.

Population, 600. Incorporated 1898.

Byram Township.—MEMBERS AND OFFICERS—Samuel Peterson, Stanhope; Hiram Stone, Andover; Amos J. Almer, Stanhope; E. O. Valentine, Secretary, Stanhope; Dr. C. K. Davison, Inspector, Stanhope.

One case of typhoid fever and 1 of small-pox occurred. Three nuisances were abated. Gratuitous vaccination has been offered. Thirteen meetings were held.

SUSSEX COUNTY—*Continued.*

Green Township.—MEMBERS AND OFFICERS—Peter Martin, Tranquility; Chas. F. Ayres, Huntaville; Clarence L. Cook, Newton; Moses W. Northup, Secretary, Huntsville.

Ten cases of scarlet fever were reported. There are 60 unvaccinated school children in the district. Four meetings were held.

Hampton Township.—MEMBERS AND OFFICERS—John H. Williams, Baleville; M. H. Northup, Baleville; Geo. W. Van Horn, Newton; Frank Emmans, Secretary, Newton; Dr. Jos. Hedges, Inspector, Branchville.

Two cases of diphtheria occurred. One meeting was held.

Hopatcong Borough.—MEMBERS AND OFFICERS—Lewis S. Pilcher, M.D., Theo. A. K. Gessler, John Aldred, I. C. Yawger, Solomon Balser; James T. Pilcher, Inspector. All of Landing.

Five cases of typhoid fever were reported. One nuisance was abated. Two meetings were held. Gratuitous vaccination was offered to the public during the year.

Lafayette Township.—MEMBERS AND OFFICERS—John D. Ackerson, M. B. Mabee, Fred. M. Pellet; Dr. J. C. Strader, Registrar. All of Lafayette.

One case of diphtheria was reported.

Montague Township.—MEMBERS AND OFFICERS—John Bigart, Port Jervis, N. Y.; Fred. Rinehardt, Port Jervis, N. Y.; Timothy Shay, Hainesville; Geo. N. Cole, Secretary, Port Jervis, N. Y., R. F. D., No. 1.

One case of scarlet fever and one of typhoid fever were reported. Two meetings were held.

Town of Newton.—MEMBERS AND OFFICERS—Dr. Shepard Voorhees, Chas. S. Steel, Horten M. Beegle, John N. Calbin; Geo. B. Case, Secretary; Israel L. Hallock, Inspector.

Estimated population, 5,000. Communicable diseases were reported as follows: Diphtheria, 41; scarlet fever, 4; typhoid, 6; small-pox, 1. Number of complaints investigated, 20. Number of nuisances abated, 2. Gratuitous vaccination was offered to the public during the year. Twelve meetings were held.

SUSSEX COUNTY—*Continued.*

Sandyston Township.—MEMBERS AND OFFICERS—Adam Van Sickle, Francis Shay, E. Rosenkrans; M. D. Hughes, M.D., Secretary; Elvin E. Smith, Registrar. All of Layton.

Number of unvaccinated school children, 250. One meeting was held.

Sparta Township.—MEMBERS AND OFFICERS—L. C. Burd, Ogdensburg; R. H. Earls, Sparta; W. H. Beatty, Sparta; J. W. Maseker, Secretary, Sparta.

One nuisance was abated.

Stillwater Township.—MEMBERS AND OFFICERS—Chas. A. Lewis, Stillwater; Wm. E. Titman, Swartswood; Chas. R. Westbrook, Middleville; Joseph E. Huff, Secretary, Newton, R. F. D., No. 1; E. W. Landes, Inspector, Stillwater.

Two cases of diphtheria, 1 of scarlet fever and 1 of typhoid fever were reported. Two meetings were held.

Sussex Borough.—MEMBERS AND OFFICERS—H. D. Vanagaasbeek, S. F. Quinn, Moses Green, John Kittle; B. F. Decker, Secretary; F. B. Whittle, Registrar.

Estimated population, 1,350. Total number of dwellings connected with water-mains, 140. Monthly meetings are held.

Walpack Township.—C. D. Gunn, Secretary, Walpack Center.

Wantage Township.—MEMBERS AND OFFICERS—Irving Brink, J. E. Wilson, Leben Martin, W. T. Wright; S. M. Parcell, Secretary; J. D. Vangesbeck, Inspector. All of Sussex.

One meeting was held.

UNION COUNTY.

Clark Township.—MEMBERS AND OFFICERS—Charles Cordes, Wm. J. Thompson, Wm. Smith, Dr. W. E. Cladek; F. P. Bullman, Secretary. All of Rahway.

One meeting was held.

Cranford Township.—MEMBERS AND OFFICERS—Wm. F. Hall, J. C. W. Rankin, E. B. Norton, J. K. MacConnell, M.D.; E. S. Crane, Secretary. All of Cranford.

Communicable diseases were reported as follows: Diphtheria, 1; scarlet fever, 3; small-pox, 1. Number of dwellings connected with public water-supply, 336. Nuisances abated, 2. Six meetings were held.

Elizabeth City.—MEMBERS AND OFFICERS—John W. Whelan, Louis R. Brown, M.D., James S. Green, M.D., Victor Mravlag, M.D., Louis Quilen, C.E., Edward R. O'Reilly, M.D., Arthur Stern, M.D.; James J. Manning, Secretary; Louis J. Richards, Health Officer; P. J. Connell, H. Toole, Inspectors.

This city was founded in 1665. Estimated population, 55,000. Communicable diseases were reported as follows: Diphtheria, 224; scarlet fever, 94; typhoid fever, 57; small-pox, 54. The city expended during the fiscal year \$7,200 for the collection and disposal of garbage. Number of complaints investigated, 479. Number of nuisances abated, 392. Free vaccination has been offered by the board during the year. Fourteen meetings were held.

Fanwood Borough.—MEMBERS AND OFFICERS—F. W. Westcott, M.D., F. D. Warren, Wm. E. Gibbs; N. C. Barnhardt, Secretary; E. C. Kieb, Registrar; F. J. Palmer, Inspector.

Two cases of scarlet fever occurred. Sixty dwellings are connected with the public water-mains. Four nuisances were abated.

Fanwood Township.—MEMBERS AND OFFICERS—Thos. J. Nicholl, Scotch Plains; Theo. R. Bruchmann, Scotch Plains; Edward V. Goodman, Ashbrook; Chas. H. French, Secretary, Westfield; Dr. F. Westcott, Inspector, Fanwood.

Communicable diseases were reported as follows: Diphtheria, 4; typhoid fever, 1; small-pox, 2. Four nuisances were abated. Twelve meetings were held.

UNION COUNTY—*Continued.*

Linden Borough.—MEMBERS AND OFFICERS—H. B. Hardenburg, Wm. McDonagh, H. L. Browning, Jr., A. E. Knopf, D. N. Hetfield, H. D. Houston, F. T. Etheridge; R. S. Cole, Secretary; M. C. Lowdon, Inspector.

One meeting was held.

Linden Township.—MEMBERS AND OFFICERS—W. E. Mitchell, John M. Bachman, Geo. McGilloray, Jr.; Asa E. Collins, Secretary. All of Linden. Dr. W. C. Winans, Inspector, Tremley.

One nuisance was abated. Five meetings were held.

Mountainside Borough.—MEMBERS AND OFFICERS—John F. Dorval, J. Wilbur Cory, James Cole; George W. Smith, Secretary; Wm. DeVean, Inspector.

Three nuisances were abated. Four meetings were held.

New Providence Borough.—MEMBERS AND OFFICERS—James G. Alden, West Summit; Alfred G. Mason, Murray Hill; Wm. Woodruff, New Providence; Thomas P. Crane, New Providence; J. Thos. Scott, Secretary, West Summit; John W. Dickinson, Inspector, New Providence.

Estimated population, 960. Three cases of diphtheria were reported. Twenty-three dwellings are connected with the public water-supply. Two nuisances were abated. Six meetings were held.

New Providence Township.—MEMBERS AND OFFICERS—S. P. Debbie, Scotch Plains; Henry S. Fullerton, Scotch Plains; Victor Mercier, Berkeley Heights; W. C. Johnson, Secretary, New Providence; Frank Westcott, M.D., Inspector, Scotch Plains.

Four cases of typhoid fever were reported. Six meetings were held.

Plainfield City.—MEMBERS AND OFFICERS—Chas. J. Fisk, Fred. W. Dunn, Herman A. Weber, Thos. S. Davis, M.D.; B. vanD. Hedges, M.D., Secretary; Miss H. O. Mattison, Registrar; Wm. Addis, Sr., Inspector; Leon R. Thurlow, Health Officer.

Estimated population, 15,700. Communicable diseases were reported as follows: Diphtheria, 35; scarlet fever, 60; typhoid fever, 37; small-pox, 14. Total number of dwellings connected with the public water-supply, 2,599. The health officer writes as follows in regard to garbage collection, vaccination and dairy inspection:

UNION COUNTY—*Continued.*

Garbage is collected, transported and disposed of by licensed garbage collectors. Their manner of collecting and transporting is controlled by the board of health through ordinances.

One of the greatest needs of this city is a plant owned and operated by the city for the collection and disposal of garbage. Several nuisances have been caused by the dumping of garbage.

VACCINATION.

When small-pox became prevalent in the vicinity of Plainfield the offices of the board were open for more than a week for the purpose of performing free vaccinations. All schools were visited and children vaccinated. Children, whose parents refused to have them vaccinated, were excluded from school by the board of education. All large factories were also visited. In this way nearly 1,700 persons were vaccinated.

DAIRY INSPECTION.

We have a regular periodical inspection of all dairies supplying milk in the city of Plainfield. The dairies are visited once a month, if possible, and special attention is given to cleanliness in caring for the stables, cattle and milk, the cooling of the milk, its storage and transportation, and also to the water-supply for washing utensils and for watering cattle. Records are kept of these inspections similar to those used by the State Board of Health and are on file at the office of the board of health, open at all times to the public.

Analyses of the milk sold by the different dealers in the city are made, both chemically and bacteriologically. We have endeavored to adopt measures to prevent an unnecessary high number of bacteria in the milk, believing that great harm is done by milk containing an excessively high number of bacteria. We have found bacteria to the number of 2,160,000 per cubic centimeter in milk from the ordinary farmer's stable, but by careful attention and investigation of the cleanliness of the stables and the proper cooling and handling of the milk, we have been able to bring that number down to 65,000 per cubic centimeter.

Number of complaints investigated during the year, 218. Number of nuisances abated, 225. The city is provided with an isolation for the care of small-pox cases. Fifteen meetings were held.

Rahway City.—MEMBERS AND OFFICERS—C. B. Holmes, M.D., H. Page Hough, M.D., W. E. Cladek, M.D., Jno. M. Randolph, M.D.; S. R. Ryno, Secretary; Fred. J. Mix, Inspector.

Estimated population, 8,500. Communicable diseases were reported as follows: Diphtheria, 6; scarlet fever, 9; typhoid fever, 3; small-pox, 36. Nuisances abated, 91. Gratuitous vaccination was offered to the public during the year. Nine meetings were held.

UNION COUNTY—*Continued.*

Roselle Park Borough.—MEMBERS AND OFFICERS—Arthur Churchill, Patrick Cooley, S. W. Kingsland, Chas. Englehart; Oscar T. Peck, Secretary; James Kelley, Inspector.

Estimated population, 1,200. Three cases of diphtheria, 2 of scarlet fever and 1 of small-pox occurred. Fourteen nuisances were abated. All school children are vaccinated. Twelve meetings were held.

Springfield Township.—MEMBERS AND OFFICERS—John L. Denman, A. P. Carter, L. T. Terry; J. J. Hoff, Secretary, J. A. Stites, M.D., Inspector. All of Springfield.

One case of diphtheria was reported. Three nuisances were abated. Four meetings were held.

Summit City.—MEMBERS AND OFFICERS—Dr. W. H. Lawrence, Col. A. B. Wallace, Geo. H. Hodenpyt, Francis E. Dana, Wm. H. King; Dr. J. Edw. Rowe, Jr., Health Officer; T. J. Scott, Plumbing Inspector.

Estimated population, 5,600. Communicable diseases were reported as follows: Diphtheria, 18; scarlet fever, 11; typhoid fever, 4; small-pox, 6. Property for the erection of an isolation hospital has been secured. Total number of dwellings connected with public water-supply, 800. Garbage is collected by private contract. Number of nuisances abated, 46. Nineteen meetings were held.

Union Township.—MEMBERS AND OFFICERS—John H. Doremus, Lyons Farms; D. H. Beach, Union; David T. Magle, Lorraine; D. Hobart Sayre, Secretary, Union.

Five cases of diphtheria, 1 of scarlet fever and 3 of small-pox occurred. One nuisance was abated. Three meetings were held.

Westfield Township.—MEMBERS AND OFFICERS—Wm. W. Connolly, J. Alston Dennis, Geo. Delatoner, Joseph B. Harrison, M.D.; John M. C. Marsh, Secretary.

Communicable diseases were reported as follows: Diphtheria, 9; scarlet fever, 2; typhoid fever, 1; small-pox, 1. An isolation hospital has been constructed. The township is provided with a public water-supply and a sewer system. Twenty nuisances were abated. Gratuitous vaccination was offered to the public. Fifteen meetings were held.

WARREN COUNTY.

Allamuchy Township.—MEMBERS AND OFFICERS—Chas. W. Puffer, Allamuchy; T. G. Dunlap, Allamuchy; Mathias Hebler, Allamuchy; John N. Hebler, Secretary, Tranquillity; Lewis C. Osmun, M.D., Inspector, Hackettstown; Benj. A. Hendershot, Clerk, Allamuchy.

Estimated population in 1902, 520. The township has an average altitude of 550 feet and an area of 50 square miles. Two cases of small-pox occurred, both of which were fatal. Six meetings were held.

Belvidere City.—MEMBERS AND OFFICERS—W. C. Albertson, M.D., President; Geo. Prall; James Belford, Inspector; F. P. Lefferts, M.D., Secretary.

On account of the existence of small-pox in the county, free vaccination was offered by the board, and arrangements were made for the erection of a temporary hospital. Six cases of typhoid fever have occurred. One case of diphtheria and 1 case of scarlet fever were reported.

Blairstown Township.—MEMBERS AND OFFICERS—Abraham L. Smith, Vail; Wm. C. Howell, Blairstown; Francis C. Wilson, Blairstown; Wm. S. Perry, Secretary, Knowlton; Dr. H. O. Carhart, Inspector.

Two cases of scarlet fever and 1 of typhoid fever were reported. Two meetings were held.

Frelinghuysen Township.—MEMBERS AND OFFICERS—George Hibler, Johnsonburg; J. W. Hart, Johnsonburg; Marshall Cook, Hope; W. H. Ackerson, Johnsonburg; F. Rorback, M.D., Johnsonburg.

Four cases of scarlet fever were reported. One meeting was held.

Greenwich Township.—MEMBERS AND OFFICERS—Joseph H. Firth, Stewartsville; Thomas Hyndshaw, Stewartsville; B. F. Strader, Stewartsville; C. B. Warrington, M.D., Stewartsville; Wm. Sherrer, Secretary, Bloomsbury.

A code of ordinances was adopted during the year. Two meetings were held.

WARREN COUNTY—*Continued.*

Town of Hackettstown.—MEMBERS AND OFFICERS—Robert Price, Alden E. Martin, M.D., Augustus W. Cutler, Richard G. Clark, Alfred Hoffman, Thomas Nolan, James Tamblin; Frank P. Titus, Secretary.

Estimated population, 3,000. Twelve cases of diphtheria and 123 cases of small-pox occurred. There are no unvaccinated children in the schools. On account of the extensive outbreak of small-pox nearly the entire population has been vaccinated. Twenty-four meetings were held.

Hardwick Township.—No organized board of health. Marcus G. Hill, Assessor, Blairstown.

Harmony Township.—MEMBERS AND OFFICERS—Peter E. Cole, Montana; Erwin B. Smith, Rocksburg; Geo. M. Amey, Harmony; Freeman Schuler, Secretary, Rocksburg; Dr. James D. De Witt, Inspector, Harmony.

Communicable diseases were reported as follows: Diphtheria, 3; scarlet fever, 4; small-pox, 3. Two meetings were held.

Hope Township.—MEMBERS AND OFFICERS—John W. Kostenbader, Delaware; Chas. H. Cooke, Buttzville; John C. Flumerfelt, Delaware; Lewis C. Fleming, Secretary, Townsbury; Dr. Walter Storm, Inspector, Hope.

One case of typhoid fever was reported. Four meetings were held.

Independence Township.—MEMBERS AND OFFICERS—James F. Johnson, Hackettstown; John T. Lomerson, Vienna; Silas Cummins, Hackettstown; F. W. Haggerty, M. D., Secretary, Vienna; W. J. Barker, Registrar, Vienna.

Three cases of small-pox occurred. One nuisance was abated. Nearly all the school children are vaccinated. Ten meetings were held.

Knowlton Township.—MEMBERS AND OFFICERS—Theodore A. Beck, Hainesburg; Wm. L. Cool, Delaware; Erwin Snyder, Delaware; Wm. B. Moore, Secretary, Columbia.

One case of scarlet fever and 1 of typhoid fever were reported. Two nuisances were abated. One meeting was held.

WARREN COUNTY—*Continued.*

Mansfield Township.—MEMBERS AND OFFICERS—Jacob P. Petty, Port Murray; Joseph R. Stewart, Rock Port; John Vannatta, Anderson; James Beatty, Secretary, Port Murray.

One case of diphtheria and 2 of scarlet fever were reported.

Oxford Township.—MEMBERS AND OFFICERS—E. W. Parcell, Buttzville; E. H. Mackey, Belvidere; Geo. Wildrick, Buttzville; Jas. W. O'Bryan, Oxford; L. B. Hoagland, M.D., Secretary, Oxford.

One meeting was held.

Pahaquarry Township.—MEMBERS AND OFFICERS—Oliver Courtright, Richard Lutes, Garret Gariss; Jason K. Hill, Secretary. All of Millbrook.

Town of Phillipsburg.—MEMBERS AND OFFICERS—Joseph Pfeiffer, Dr. F. J. Drake, Daniel Zeigler, P. F. Hagerty, John Greek, Willard Smith; Frank Kneedler, Registrar; Howard R. Carey, Inspector; B. C. Frost, Attorney.

Estimated population, 11,000. Communicable diseases were reported as follows: Diphtheria, 58; scarlet fever, 9; typhoid fever, 9; small-pox, 2. During the past year \$2,278 was expended for the collection and disposal of garbage. Number of complaints investigated, 150, and all nuisances discovered were abated. Three meetings were held.

Washington Borough.—MEMBERS AND OFFICERS—Chas. M. Williams, M.D., A. J. Bigler, John Hornbaker, D. V. Wyckoff, H. M. Cox, M.D.; A. J. Craft, Secretary.

Estimated population, 3,600. Six cases of diphtheria and 1 of scarlet fever were reported. Number of nuisances abated, 24. Gratuitous vaccination was offered to the public. Eight meetings were held.

Washington Township.—MEMBERS AND OFFICERS—Robert V. Bowes, Washington; Wm. H. Apgar, Port Colden; Oren Perry, Washington; Chas. B. Smith, M.D., Washington; Samuel Rinehart, Secretary, Washington.

One case of diphtheria was reported. One meeting was held.

List of Sanitary Districts, Showing Population and Names and Addresses of Officers.

SANITARY DISTRICT.	COUNTY.	Population by Census of 1900.	NAME AND ADDRESS OF SECRETARY.	NAME AND ADDRESS OF REGISTRAR OF VITAL STATISTICS.
<i>Cities.</i>				
Asbury Park.....	Monmouth.....	4,148	D. C. Bowen.....	D. C. Bowen.
Atlantic City.....	Atlantic.....	27,838	Alfred W. Bailly, M.D.....	Alfred T. Glenn.
Bayonne.....	Hudson.....	32,722	E. F. Carbin.....	
Belvidere.....	Warren.....	1,784	F. P. Leferts, M.D.....	U. G. Pursell.
Beverly.....	Burlington.....	1,950	B. F. Soby, M.D.....	B. F. Soby, M.D.
Bordentown.....	Burlington.....	4,110	Wm. H. Shippe, M.D.....	H. W. Kunzi.
Bridgeton.....	Cumberland.....	13,913	John H. Moore, M.D.....	Frank L. Hewitt.
Burlington.....	Burlington.....	7,392	Alfred P. Silpath.....	J. F. Cline.
Camden.....	Camden.....	76,936	Eugene B. Roberts.....	H. C. Kramer.
Cape May City.....	Cape May.....	2,257	Lewis T. Stevens.....	John W. Thompson.
Dover.....	Morris.....	5,988	J. H. C. Hunter.....	J. H. C. Hunter.
East Orange.....	Essex.....	21,508	T. N. Gray, M.D.....	S. M. Long.
Egg Harbor City.....	Atlantic.....	1,808	V. P. Hoffmann.....	V. P. Hoffmann.
Elizabeth.....	Union.....	52,130	James J. Manning.....	James J. Manning.
Englewood.....	Bergen.....	6,253	Gilliam D. Bogert.....	Robert Jamieson.
Gloucester City.....	Camden.....	6,840	Daniel F. Lane.....	Daniel F. Lane.
Hackensack.....	Bergen.....	9,443	John Covert.....	Cornelius E. Eckerson.
Hoboken.....	Hudson.....	59,364	Joseph Tucker.....	Joseph Tucker.
Jersey City.....	Hudson.....	206,433	C. J. Rooney.....	C. J. Rooney.
Lambertville.....	Hunterdon.....	4,687	James H. Reynolds.....	James H. Reynolds.
Millville.....	Cumberland.....	10,583	L. H. Hogate.....	L. H. Hogate.
Montclair.....	Essex.....	13,982	Richard P. Francis, M.D.....	H. N. Parker.
Morristown.....	Morris.....	11,267	Thomas Martin.....	Thomas Martin.
Newark.....	Essex.....	246,070	D. D. Chandler.....	James F. Connelly.
New Brunswick.....	Middlesex.....	20,006	S. V. D. Clark, M.D.....	George H. Dainzer.
Orange.....	Essex.....	24,141	Wm. Schluer.....	Daniel A. Dugan.
Passaic City.....	Passaic.....	27,777	Gilbert D. Bogert.....	George F. Grear.
Paterson.....	Passaic.....	105,171	James P. McNair.....	John T. Pollitt.
Perth Amboy.....	Middlesex.....	17,699	W. E. Ramsey, M.D.....	John F. Reilly.
Phillipsburg.....	Warren.....	10,052	Frank Kneeder.....	Frank Kneeder.

List of Sanitary Districts, Showing Population and Names and Addresses of Officers—Continued.

SANITARY DISTRICT.	COUNTY.	Population by Census of 1900.	NAME AND ADDRESS OF SECRETARY.	NAME AND ADDRESS OF REGISTRAR OF VITAL STATISTICS.
<i>Cities.—Con.</i>				
Plainfield.....	Union.....	15,869	B. van D. Hedges, M.D.....	H. O. Mattison.
Rahway.....	Union.....	7,935	S. R. Ryno.....	S. R. Ryno.
Salem City.....	Salem.....	5,811	Clinton Bowen.....	Clinton Bowen.
Summit.....	Union.....	5,302	Dr. J. E. Rowe.....	Dr. J. E. Rowe.
Trenton.....	Mercer.....	73,907	Thomas Holmes.....	C. Edward Murray.
Woodbury.....	Gloucester.....	4,087	Arthur Starr.....	J. E. Estell.
<i>Boroughs.</i>				
Allendale.....	Bergen.....	694	J. M. Christopher.....	J. M. Christopher.
Allenhurst.....	Monmouth.....	165	.....	Edward H. Ward
Allentown.....	Monmouth.....	696	Josiah S. Robbins.....	W. R. Forsythe.
Angelsea.....	Cape May.....	161	Geo. W. Dougherty.....	E. M. Shivers.
Atlantic Highlands.....	Monmouth.....	1,383	W. N. Snedeker.....	W. N. Snedeker.
Avalon.....	Cape May.....	93	.....	Walter A. Smith.
Avon.....	Monmouth.....	.....	H. M. Dolan.....	H. M. Dolan.
Bay Head.....	Ocean.....	247	Julius Foster.....	Julius Foster.
Beach Haven.....	Ocean.....	239	W. F. Beer.....	Thomas A. Gavin.
Belmar.....	Monmouth.....	902	Charles O. Hudnut.....	Chas. O. Hudnut.
Bergen Fields.....	Bergen.....	729	John J. Huyler.....	John J. Huyler.
Bogota.....	Bergen.....	337	Thomas J. Roberts.....	Harlan P. Ross.
Bound Brook.....	Somerset.....	2,622	W. S. Negus.....	Chas. McNabb.
Bradley Beach.....	Monmouth.....	982	Samuel B. Murphy.....	A. D. Harvey.
Branchville.....	Sussex.....	526	.....	H. N. Kyrner.
Brigantine.....	Atlantic.....	99	James R. Biseex.....	James R. Biseex.
Butler.....	Morris.....	.....	Dr. Samuel K. Owen.....	C. A. Decker.
Caldwell.....	Essex.....	1,867	Isaac E. Baldwin.....	J. J. Van Orden.
Cape May Point.....	Cape May.....	153	.....	Lafayette Miller.
Carlstadt.....	Bergen.....	2,574	Herman Foth.....	Herman Foth.
Chatham.....	Morris.....	1,361	D. H. Crawford.....	D. H. Crawford.
Chesilhurst.....	Camden.....	283	.....	Albert Ladynski.

List of Sanitary Districts, Showing Population and Names and Addresses of Officers—Continued.

SANITARY DISTRICT.	COUNTY.	Population by Census of 1900.	NAME AND ADDRESS OF SECRETARY.	NAME AND ADDRESS OF REGISTRAR OF VITAL STATISTICS.
<i>Boroughs—Con.</i>				
Clayton.....	Gloucester.....	1,951	R. H. Nutt, Cliffside.....	C. F. Fialer, M.D.
Cliffside Park.....	Bergen.....	968	Geo. A. Hall.....	Jean Henri Raas, Cliffside.
Clinton.....	Hunterdon.....	816	Geo. A. Hall.....	G. A. Hall.
Collingswood.....	Camden.....	1,633	Robert S. Duff.....	Robert S. Duff.
Cresskill.....	Bergen.....	486	John W. Fleete.....	Geo. Y. Allaire.
Deal.....	Monmouth.....	70	E. L. Cowart, Deal Beach.....	F. H. Farcells.
Delford.....	Bergen.....	746	Geo. F. Moore, Oradell.....	H. A. Bingham, Oradell.
Dumont.....	Bergen.....	643	H. B. Jenkins.....	Frank Hill
Dunellen.....	Bergen.....	1,239	Wilson S. Frederick.....	Chas. A. Coriell.
East Rutherford.....	Middlesex.....	2,640	W. E. Novo.....	Wm. E. Novo, Rutherford.
Edgewater.....	Bergen.....	1,006	Edward Fischer.....	Edward Fischer.
Elmer.....	Salem.....	1,140	.....	Hiram Van Meter.
Englishtown.....	Monmouth.....	410	.....	E. T. Reid.
Englewood Cliffs.....	Bergen.....	218	.....	John G. Ropes, Fort Lee.
Essex Falls.....	Essex.....	.....	.....	.....
Fairview.....	Bergen.....	1,003	C. M. Driggs.....	John C. Bush.
Fanwood.....	Union.....	399	N. C. Barnhardt.....	Ernest C. Kieb.
Fieldsboro.....	Burlington.....	459	Wm. Leatherbury.....	C. H. Fennimore.
Florham Park.....	Morris.....	752	Henry W. Young.....	Henry W. Young.
Frenchtown.....	Hunterdon.....	2,934	E. W. Moore.....	Wm. B. Shurtz.
Garfield.....	Bergen.....	3,504	P. J. Scanlon.....	P. J. Scanlon.
Glen Ridge.....	Essex.....	1,960	H. K. Benson.....	Clarence Place.
Glen Rock.....	Bergen.....	618	.....	Wm. H. Berry, Ridgewood.
Haddonfield.....	Camden.....	2,776	Wm. H. Harrison.....	Wm. H. Harrison.
Hasbrouck Heights.....	Bergen.....	1,255	John G. Martin.....	John G. Martin.
Hawthorne.....	Passaic.....	2,096	J. L. Burr, North Paterson.....	S. E. Barnes, North Paterson.
Helmetta.....	Middlesex.....	447	Chas. W. Bumstead.....	Edward M. Clemens.
High Bridge.....	Hunterdon.....	1,377	Samuel Tate.....	P. H. Murray.
Highlands.....	Monmouth.....	1,228	Silvanos L. Liming.....	S. L. Liming.
Hightstown.....	Mercer.....	1,749	.....	Fred. B. Applegate.

List of Sanitary Districts, Showing Population and Names and Addresses of Officers—Continued.

SANITARY DISTRICT.	COUNTY.	Population by Census of 1900.	NAME AND ADDRESS OF SECRETARY.	NAME AND ADDRESS OF REGISTRAR OF VITAL STATISTICS.
<i>Boroughs—Con.</i>				
Holly Beach.....	Cape May.....	569	Lorenzo C. Johnson.....	H. S. Hewitt.
Hopetcong.....	Sussex.....	.....	Jas. T. Picher, Inspector.....	Chas. L. Best, Landing.
Hopewell.....	Mercer.....	980	W. L. Phillips.....	E. V. Savidge.
Island Heights.....	Ocean.....	316	.....	W. T. McKaig.
Junction.....	Hunterdon.....	998	Edgar E. Riddle.....	E. E. Riddle.
Lavalette.....	Ocean.....	21	.....	Robert H. Good.
Leesburgh.....	Cumberland.....	.....	.....	H. M. Thompson.
Leonia.....	Bergen.....	804	H. M. Thompson.....	R. S. Cole.
Linden.....	Union.....	402	R. S. Cole.....	James Farish.
Linwood.....	Atlantic.....	495	.....	A. Woods.
Little Ferry.....	Bergen.....	1,240	A. W. Woods.....	Jacob Van Hook.
Lodi.....	Bergen.....	1,917	Jacob Van Hook.....	E. B. Blaisdell.
Long Branch Com.....	Monmouth.....	8,872	E. B. Blaisdell.....	.....
Longport.....	Atlantic.....	80	.....	.....
Madison.....	Morris.....	3,754	C. E. Cook.....	Chas. E. Cook.
Manasquan.....	Monmouth.....	1,500	Ernest Koch.....	Ernest Koch.
Matawan.....	Monmouth.....	1,511	Wm. A. Rogers.....	Wm. A. Rogers.
Maywood.....	Bergen.....	536	Wm. Widnall.....	Wm. Widnall.
Merchantville.....	Camden.....	1,698	Wm. B. Stewart.....	Wm. B. Stewart.
Metuchen.....	Middlesex.....	1,786	C. M. Tausig.....	A. C. Ayres.
Midland Park.....	Bergen.....	1,948	Jacob Leenas, Wortendyke.....	Timothy Holt.
Millstone.....	Somerset.....	200	Wm. H. Polhemus.....	Arthur C. Phillips.
Milltown.....	Middlesex.....	561	John H. Kuithean.....	Robert A. Hartins.
Montvale.....	Bergen.....	416	Eugene Malcherbe, President.....	Paul Pratt.
Mount Arlington.....	Morris.....	270	H. C. Upchurch, M.D.....	Cyrus E. Cook.
Mountain Side.....	Union.....	387	Geo. W. Smith.....	Geo. W. Smith.
Mount Tabor.....	Morris.....	.....	T. A. Lowe, Jersey City.....	.....
National Park.....	Gloucester.....	.....	.....	.....
Neptune City.....	Monmouth.....	1,009	Whitfield Smith.....	Whitfield Smith, Avon.
Netcong.....	Morris.....	941	Frank King.....	Frank King.

List of Sanitary Districts, Showing Population and Names and Addresses of Officers—Continued.

LIST OF SANITARY DISTRICTS.

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SANITARY DISTRICT.	COUNTY.	Population by Census of 1900.	NAME AND ADDRESS OF SECRETARY.	NAME AND ADDRESS OF REGISTERAR OF VITAL STATISTICS.
<i>Boroughs—Con.</i>				
New Providence.....	Union.....	565	J. Thomas Scott, West Summit.....	J. Thomas Scott.
North Caldwell.....	Essex.....	297	Wm. J. Elii, Haledon.....	Fred. L. Baldwin, Caldwell.
North Haledon.....	Passaic.....	5,009	Rev. W. E. Honeyman.....	Adolph Kramer, Haledon.
North Plainfield.....	Somerset.....	361	Burton G. Saunders.....	Rev. W. E. Honeyman, Plainfield.
North Spring Lake.....	Monmouth.....	1,307	T. Lee Adams.....	F. M. Hunt.
Nulley.....	Essex.....	1,307	H. B. Alday, M.D.....	Henry M. Whitfield.
Oakland.....	Bergen.....	269	R. B. Haring.....	T. Lee Adams.
Ocean City.....	Cape May.....	644	Martin Brunings.....	R. B. Haring, Tappan, N. Y.
Ocean Grove Association.....	Monmouth.....	870	E. W. Landes.....	M. E. Jenkins.
Old Tappan.....	Bergen.....	771	John H. Antrim.....	F. H. Stark.
Palisades Park.....	Bergen.....	738	Jos. C. Bunn.....	John H. Antrim.
Park Ridge.....	Burlington.....	1,898	Henry M. Flanagan, M.D., Sec'y.....	Joseph C. Bunn.
Pemberton.....	Mercer.....	2,193	Wilbur Reed.....	H. M. Flanagan, M.D.
Pennington.....	Salem.....	746	W. E. Pearce.....	Wilbur Reed.
Pennsgrove.....	Atlantic.....	847	Horace L. Wells.....	H. F. Egbert, Point Pleasant.
Pleasantville.....	Ocean.....	3,899	Martin Hubbard.....	H. L. Wells.
Point Pleasant.....	Point Pleasant Beach.....	3,244	Jacob Doele.....	M. W. Hubbard.
Pompton Lakes.....	Passaic.....	584	B. F. Underwood.....	Jacob Doele, 256 N. Seventh street.
Princeton.....	Mercer.....	661	Wm. W. Herrick, River Edge.....	Wm. Killegar.
Prospect Park.....	Passaic.....	1,332	Alex. Marcy, Jr.....	B. F. Underwood.
Raritan.....	Somerset.....	1,433	Wm. May.....	Jacob G. Cottrell.
Ridgely.....	Bergen.....	354	E. R. Logan.....	Wm. A. Parliman.
Riverside.....	Burlington.....	1,652	Oscar T. Peck.....	A. C. Skirm.
Riverton.....	Morris.....	4,411	P. H. Maison.....	G. A. Rawlins.
Rockaway.....	Somerset.....			Oscar T. Peck, Roselle.
Rocky Hill.....	Union.....			P. H. Maison.
Roselle.....	Bergen.....			
Roselle Park.....				
Rutherford.....				

List of Sanitary Districts, Showing Population and Names and Addresses of Officers—Continued.

SANITARY DISTRICT.	COUNTY.	Population by Census of 1900.	NAME AND ADDRESS OF SECRETARY.	NAME AND ADDRESS OF REGISTRAR OF VITAL STATISTICS.
<i>Boroughs—Con.</i>				
Saddle River	Bergen.....	415	Isaac A. Hopper, Fair Lawn.....	T. Nelson Woodruff
Seabright... ..	Monmouth.....	1,198	.....	F. J. Heisl, Jr.
Sea Isle City.....	Cape May.....	340	Henry A. De Roche	Chas. H. Clouting.
Seaside Park	Ocean.....	73	.....	.....
Secaucus.....	Hudson.....	1,698	Frank Eckardt.....	.....
Somers Point.....	Atlantic.....	308	.....	Winfield R. Fox.
South Amboy.....	Middlesex.....	6,349	Jos. F. Fulton.....	Joseph F. Fulton.
South Atlantic City.....	Atlantic.....	69	Chas. Hart.	Chas. Hart.
South Bound Brook.....	Somerset.....	883	.....	.....
South Cape May.....	Cumberland.....	14	.....	.....
South River.....	Middlesex.....	2,792	Max J. Heine.....	J. Conover Bowne.
Spring Lake Beach.....	Monmouth	528	E. H. Newman.....	W. T. Valiant.
Stockton.....	Hunterdon.....	590	John S. Wilson.....	John S. Wilson.
Sussex.....	Sussex.....	1,306	B. F. Decker.....	F. B. Whittle.
Swedesboro	Gloucester .....	.....	Wm. H. Rieger.....	J. B. W. Lanning, M.D.
Tenafly.....	Bergen.....	1,746	Fred. L. Colver.....	John L. Ochs, Paterson.
Totowa.....	Passaic.....	562	Wilbur De Mott.....	J. Louis Lane.
Tuckerton.....	Ocean.....	.....	.....	A. A. Zabriskie, Saddle River.
Upper Saddle River.....	Bergen.....	326	Henry Zabriskie, Saddle River.....	Wm. Billington.
Valhburg.....	Essex.....	2,779	Robert A. Glover.....	J. N. Tomlinson.
Vineland.....	Cumberland	4,370	J. H. Prince.....	James Brennan, Carlton Hill.
Wallington.....	Bergen.....	1,812	.....	A. J. Craft.
Washington.....	Warren.....	3,580	A. J. Craft	Jesse W. English.
Wenonah.....	Gloucester.....	498	Jesse W. English.....	Theodore Reeves, Eldredge.
West Cape May.....	Cape May.....	696	A. G. Stevens, M.D.....	John E. Haring.
Westwood.....	Bergen.....	828	J. E. Haring.....	W. J. Chedwidden.
Wharton.....	Morris.....	2,069	Jas. Williams.....	Wm. R. Cills.
Wildwood.....	Cape May.....	150	Wm. R. Cills.....	G. J. Wortendyke.
Woodliffe.....	Bergen.....	829	G. J. Wortendyke	Chas. F. Cogswell.
Wood Lynne	Camden.....	.....	Chas. F. Cogswell.....	.....

List of Sanitary Districts, Showing Population and Names and Addresses of Officers—Continued.

SANITARY DISTRICT.	COUNTY.	Population by Census of 1900.	NAME AND ADDRESS OF SECRETARY.	NAME AND ADDRESS OF REGISTRAR OF VITAL STATISTICS.
<i>Boroughs—Con.</i>				
Wood Ridge.....	Bergen.....	582	Wm. H. White.....	Wm. H. White.
Woodstown.....	Salem.....	1,371	.....	H. H. Stepler.
<i>Towns.</i>				
Albion.....	Atlantic.....	530	Geo. B. Lutta.....	George B. Lutta.
Bloomfield.....	Essex.....	9,668	Wm. L. Johnson.....	Wm. L. Johnson.
Boonton.....	Morris.....	3,901	M. L. Brower.....	G. E. Fisher.
Breehold.....	Monmouth.....	2,934	Theo. Sickles.....	Bulif V. Lawrence.
Guttenberg.....	Hudson.....	3,825	.....	.....
Hackettstown.....	Warren.....	2,474	Frank P. Titus.....	Frank P. Titus.
Hammononton.....	Atlantic.....	3,481	J. Louis O'Donnell.....	J. Louis O'Donnell.
Harrison.....	Hudson.....	10,566	John J. Scannell.....	Mahlon Stockman.
Irvington.....	Essex.....	5,255	Edwin Berry.....	Albert Geissler.
Kearny.....	Hudson.....	10,896	Joseph Smith.....	.....
Keyport.....	Monmouth.....	3,413	D. E. Roberts, M.D.....	.....
Red Bank.....	Monmouth.....	5,428	Jas. H. Sickles.....	Jas. H. Sickles.
Somerville.....	Somerset.....	4,843	Wm. R. Sutphen.....	W. R. Sutphen.
Town of Union.....	Hudson.....	15,187	.....	.....
West Hoboken.....	Hudson.....	23,094	W. Percival Fisk.....	.....
West New York.....	Hudson.....	5,267	Wm. Meckbeck.....	.....
<i>Villages.</i>				
Ridgefield Park.....	Bergen.....	.....	Edgar T. Bonds.....	Thomas Terhune, Hoboken.
Ridgewood.....	Bergen.....	2,685	J. Blauvelt Hopper.....	W. W. Heberton, M.D.
South Orange.....	Essex.....	4,908	Allerton D. Hitch.....	.....
<i>Townships.</i>				
Aquackanonk.....	Passaic.....	5,351	Richard Berry.....	Richard Berry, Clifton.
Alexandria.....	Hunterdon.....	1,045	Robert Roseberry.....	Robert Roseberry, Little York.
Allamuchy.....	Warren.....	588	John N. Hebler, Tranquility.....	E. J. Harden, Allamuchy.

List of Sanitary Districts, Showing Population and Names and Addresses of Officers—Continued.

SANITARY DISTRICT.	COUNTY.	Population by Census of 1900.	NAME AND ADDRESS OF SECRETARY.	NAME AND ADDRESS OF REGISTRAR OF VITAL STATISTICS.
<i>Townships—Con.</i>				
Alloway	Salem.....	1,528	Wm. E. Simpkins.....	Wm. E. Simpkins, Aldine.
Andover.....	Sussex.....	987	Wm. Iliff.....	Wm. Iliff, Newton.
Atlantic.....	Monmouth.....	1,410	Levi Scooby.....	Levi Scooby, Scoobyville.
Bas River	Burlington.....	800	M. C. Mathis.....	M. C. Mathis, New Gretna.
Bedminster	Somerset.....	1,925	W. D. Vanderbeck.....	W. D. Vanderbeck, Gladstone.
Belleville.....	Essex.....	5,907	John Honan.....	Wm. Connolly, Belleville.
Berkley.....	Ocean.....	694	Devine Butler.....	Devine Butler, Bayville.
Bernards.....	Somerset.....	3,066	S. S. Baldwin.....	S. S. Baldwin, Liberty Corner.
Bethlehem	Hunterdon.....	1,634	S. O. Myers.....	S. O. Myers, Bloomsbury.
Beverly.....	Burlington.....	1,804	Jos. B. Carter.....	Joseph B. Carter, Delanco.
Blainstown.....	Warren.....	1,576	Wm. S. Perry.....	Wm. S. Perry, Knowlton.
Boonton.....	Morris.....	709	Geo. W. Blanchard.....	Joseph Stevenston, Boonton.
Bordentown.....	Burlington.....	488	Milton R. Cox, Bordentown.....	Thomas B. Gandy, Burlington.
Branchburg	Somerset.....	1,061	Thos. B. Gandy.....	Lester Shurts, Neshanic Station.
Brick.....	Ocean.....	1,012	Lester Shurts.....	J. H. Harvey, Point Pleasant.
Bridgewater.....	Somerset.....	1,601	Geo. W. Van Nott, Burrville.....	Chas. L. Voorhees, Somerville.
Byram	Sussex.....	1,235	E. O. Valentine.....	E. O. Valentine, Stanhope.
Buena Vista.....	Atlantic.....	1,646	Douglas Reed, Buena.....	Alfred Pennock, Buena.
Caldwell.....	Essex.....	1,619	Theodore Vincent.....	Theodore Vincent, Caldwell.
Centre.....	Camden.....	2,192	John H. Jackson.....	John H. Jackson, Magnolia.
Chatham.....	Morris.....	620	Nathaniel Clark.....	J. H. Bebout, New Providence.
Chester.....	Burlington.....	4,420	Benj. Rogers.....	Benjamin Rogers, Moorestown.
Chester.....	Morris.....	1,409	.....	John M. Frost, Chester.
Chesterfield.....	Burlington.....	1,143	Chas. B. Holloway.....	Chas. B. Holloway, Chesterfield.
Cinnaminson.....	Burlington.....	1,078	Timothy Morton.....	Timothy Morton, Parry.
Clark.....	Union.....	374	F. P. Bullman.....	F. P. Bullman, Picton.
Clayton.....	Gloucester.....	38	.....	.....
Clinton.....	Hunterdon.....	2,206	Bergen B. Berkaw.....	Bergen B. Berkaw, Annandale.
Commercial.....	Cumberland.....	2,982	.....	E. J. Cook, Fort Norris.

List of Sanitary Districts, Showing Population and Names and Addresses of Officers—Continued.

SANITARY DISTRICT.	COUNTY.	Population by Census of 1900.	NAME AND ADDRESS OF SECRETARY.	NAME AND ADDRESS OF REGISTRAR OF VITAL STATISTICS.
<i>Townships—Con.</i>				
Cranbury	Middlesex	1,428	A. M. Davison	Ancil M. Davison, Cranbury.
Deerfield	Union	2,854	Edward S. Crane	Edward S. Crane, Cranford.
Delaware	Cumberland	3,066	Dr. Chas. C. Phillips, Deerfield Station ..	Elijah R. Parvin, Deerfield Station.
Delmar	Camden	1,679	Wm. B. Jennings, M.D., Haddonfield	Wm. Graff, Haddonfield.
Dennis	Hunterdon	1,953	F. W. Venable	F. W. Venable, Sergeantville.
Deptford	Burlington	890	Daniel A. Kendall	Daniel A. Kendall, Riverton.
Dover	Cape May	2,778	Wm. C. Cattell	Leaming M. Rice, Jr., Dennisville.
Downe	Gloucester	2,114	Wm. C. Cattell	Wm. C. Cattell, Wenonah.
Eagleswood	Ocean	2,618	Peter Tilton	Peter Tilton, Toms River.
Eastampton	Cumberland	1,833	James M. Bateman, Dividing Creek	John F. Joslin, Newport.
East Amwell	Ocean	563	Eugene F. Cranmer	Eugene F. Cranmer, West Creek.
East Brunswick	Burlington	584	Chas. H. Dennis	Chas. H. Dennis, Jr., Smithville.
East Greenwich	Hunterdon	1,327	Wm. M. Clayhunce	Wm. N. Clayhunce, Wertsville.
East Windsor	Middlesex	2,423	Wm. M. Clayhunce	Henry Warnsdorfer, New Brunswick.
Eatontown	Gloucester	1,323	Walter Heritage	Walter Heritage, Swedesboro.
Egg Harbor	Mercer	894	S. L. Mount, Extra	S. L. Mount, Extra.
Elk	Monmouth	3,021	D. S. Morris	A. L. Seoby, Eatontown.
Elsinboro	Atlantic	1,968	A. R. Vickers	A. R. Vickers, Bakerville.
Evesham	Gloucester	997	Chas. P. Farnkoff	Kinsey Morgan, Hardingville.
Ewing	Salem	445	Chas. P. Farnkoff	Chas. P. Farnkoff, Salem.
Fairfield	Burlington	1,429	P. V. B. Stroud, M.D., Marlton	Samuel D. Farrow, Marlton.
Fanwood	Mercer	1,333	W. H. Cadwallader, Trenton	W. H. Cadwallader, Trenton, R.F.D., No 1
Florence	Cumberland	1,911	E. H. Whitticar, Fairton	James B. Mulford, Fairton.
Frankford	Union	1,200	Chas. H. French	Chas. H. French, Westfield.
Franklin	Burlington	1,955	Byron Cary, Florence	Byron Cary, Florence.
Franklin	Sussex	382	John W. Ackerman	John De Kay, Papakating.
Franklin	Bergen	2,139	H. C. Richman	John W. Ackerman, Wyckoff.
Franklin	Gloucester	2,252	J. L. Agans	H. C. Richman, Malaga.
Franklin	Hunterdon	1,958	J. L. Agans	J. L. Agans, Pittstown.

List of Sanitary Districts, Showing Population and Names and Addresses of Officers—Continued.

SANITARY DISTRICT.	COUNTY.	Population by Census of 1900.	NAME AND ADDRESS OF SECRETARY.	NAME AND ADDRESS OF REGISTRAR OF VITAL STATISTICS.
<i>Townships—Con.</i>				
Franklin	Somerset.....	2,398	L. J. Suydam.....	L. J. Suydam, New Brunswick, R. F. D., No. 5.
Franklin	Warren	1,280	M. B. Bowers, Broadway.....	P. B. Butterwick, Asbury.
Freehold	Monmouth	2,234	Ruliff V. Lawrence, Freehold.....	Walter H. Ackerson, Johnsonburg.
Frelinghuysen	Warren	797	W. H. Ackerson.....	Jos. Nehr, Cologne.
Galloway	Atlantic	2,469	Jos. Nehr.....	David Paulin, Glassboro.
Glassboro.....	Gloucester.....	2,677	David Paulin.....	Willard T. Gibbs, Clementon.
Gloucester.....	Canden	4,018	Willard T. Gibbs.....	M. W. Northup, Huntsville.
Green	Sussex.....	627	M. W. Northup.....	J. W. Butler, Othello.
Greenwich.....	Cumberland.....	1,233	J. W. Butler.....	Jacob Ballinger, Paulsboro.
Greenwich.....	Gloucester.....	2,252	Jacob Ballinger.....	Wm. Sherrer, Bloomsbury.
Greenwich.....	Warren	909	William Sherrer.....	James Macanlay, Westmont.
Haddon.....	Canden	2,012	James Macanlay.....	Joseph Hammill, Mays Landing.
Hamilton.....	Atlantic	1,632	Edward Hazelton, Mays Landing.....	R. E. Haines, Hamilton Square.
Hamilton.....	Mercer.....	4,164	Wm. T. Robbins, Hamilton Square.....	Frank Emmons, Newton.
Hampton.....	Sussex	775	Frank Emmons	Joseph H. Bastedo, Boonton.
Hanover	Morris	5,366	Jos. H. Bastedo	Marcus C. Hill, Blairstown.
Hardwick.....	Warren	400	Marcus C. Hill.....	Lewis R. Congleton, Hamburg.
Hardyston.....	Sussex.....	3,425	Lewis R. Congleton.....	Freeman Schlueter, Rocksburg.
Harmony.....	Warren.....	1,080	Freeman Schlueter.....	Wm. J. Demarest, Norwood.
Harrington.....	Bergen.....	3,224	Wm. J. Demarest.....	Eli Heritage, Richwood.
Harrison.....	Gloucester.....	1,593	Eli Heritage.....	Jos. H. Van Cleef, Millstone.
Hillsborough	Somerset.....	2,439	Joseph H. Van Cleef, Millstone.....	C. H. De Voe, Leonia.
Hillsdale	Bergen.....	891	John Ackerman.....	John Ackerman, Wyckoff.
Hohokus.....	Bergen.....	2,610	John Ackerman.....	Godfrey Hawk, Bloomsbury.
Holland.....	Hunterdon.....	1,652	S. S. Snyder, Milford.....	Aaron Longstreet, Keyport.
Holmdel.....	Monmouth	1,190	Aaron Longstreet.....	L. C. Fleming, Townsbur.
Hope.....	Warren.....	1,144	L. C. Fleming.....	Walter L. Minch, Shiloh.
Hopewell.....	Cumberland.....	1,807	Walter L. Minch.....	A. T. Blackwell, Harborton.
Hopewell.....	Mercer.....	3,360	Arthur T. Blackwell.....	

LIST OF SANITARY DISTRICTS.

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List of Sanitary Districts, Showing Population and Names and Addresses of Officers—Continued.

SANITARY DISTRICT.	COUNTY.	Population by Census of 1900.	NAME AND ADDRESS OF SECRETARY.	NAME AND ADDRESS OF REGISTRAR OF VITAL STATISTICS.
<i>Townships—Con.</i>				
Howell.....	Monmouth.....	1,190	James H. Butcher.....	James H. Butcher, Ardena.
Hudson County.....	Hudson.....	386,048	C. J. Rooney.....	C. J. Rooney, Jersey City.
Independence.....	Warren.....	805	F. M. Haggerty, M.D., Vienna.....	Wm. J. Barker, Vienna.
Jackson.....	Ocean.....	1,595	W. S. Hendrickson.....	Walter S. Hendrickson, Jackson's Mill.
Jefferson.....	Morris.....	1,341	Chas. Chamberlain.....	Chas. Chamberlain, Woodport.
Kingwood.....	Hunterdon.....	1,304	Samuel S. Snyder.....	Samuel S. Snyder, Locktown.
Knowlton.....	Warren.....	1,210	Wm. B. Moore.....	Wm. B. Moore, Columbia.
Lacey.....	Ocean.....	718	B. F. Matthews.....	B. F. Matthews, Forked River.
Lafayette.....	Sussex.....	717	.....	J. C. Strader, M.D., Lafayette.
Lakewood.....	Ocean.....	3,094	Ernest E. Le Compte, Lakewood.....	R. E. Robbins, Lakewood.
Landis.....	Cumberland.....	4,721	Howard M. Dolbey.....	Howard M. Dolbey, Vineland.
Lawrence.....	Cumberland.....	1,658	Henry S. Long, Cedarville.....	Furman B. Sheppard, Cedarville.
Lawrence.....	Mercer.....	1,555	Frank Pierson.....	Frank Pierson, Lawrenceville.
Lebanon.....	Hunterdon.....	2,253	A. S. Banghart.....	A. S. Banghart, Glen Gardner.
Linden.....	Union.....	619	Asa E. Collins.....	Asa E. Collins, Linden.
Little Egg Harbor.....	Ocean.....	1,856	J. L. Lane, M.D., Tuckerton.....	William Speck, Tuckerton.
Little Falls.....	Passaic.....	2,908	B. A. Stanley.....	B. A. Stanley, Little Falls.
Livingston.....	Essex.....	1,412	David Flynn.....	David Flynn, Livingston.
Lodi.....	Bergen.....	448	Julius Pries.....	Julius Pries, Wood Ridge.
Logan.....	Gloucester.....	1,444	S. B. Platt.....	S. B. Platt, Bridgeport.
Long Beach.....	Ocean.....	152	.....	A. W. Brown, Manahawkin.
Lopatcong.....	Warren.....	1,962	.....	E. Frank Cline, Shimers.
Lower Alloways Creek.....	Salem.....	1,242	.....	Richard Grier, Salem.
Lower.....	Cape May.....	1,141	C. C. Reeves, Eldredge.....	A. B. Walter, Cape May.
Lower Penns Neck.....	Salem.....	1,424	J. G. Mitchell.....	John G. Mitchell, Pennsville.
Lumberton.....	Burlington.....	1,624	Henry D. Culin.....	H. D. Culin, Hainesport.
Madison.....	Middlesex.....	1,671	D. H. Brown.....	D. H. Brown, Browntown.
Manalapan.....	Monmouth.....	1,435	G. B. Conover, Englishtown.....	Samuel C. Bowne, Tennent.
Manchester.....	Ocean.....	1,033	Harold Pittis, M.D., Lakehurst.....	W. A. Larrabee, Lakehurst.
Manchester.....	Passaic.....	3,989	Chas. H. Banta.....	Chas. H. Banta, Haledon.

List of Sanitary Districts, Showing Population and Names and Addresses of Officers—Continued.

SANITARY DISTRICT.	COUNTY.	Population by Census of 1900.	NAME AND ADDRESS OF SECRETARY.	NAME AND ADDRESS OF REGISTRAR OF VITAL STATISTICS.
<i>Townships.—Con.</i>				
Mannington	Salem	1,745	.....	Henry B. Richman, Sharptown.
Mansfield	Burlington	1,518	E. D. Erhart	E. D. Erhart, Columbus.
Mansfield	Warren	1,324	James Beatty	James Beatty, Port Murrey.
Mantua	Gloucester	2,101	George B. Hurf	George B. Hurf, Sewell.
Marlboro	Monmouth	1,747	.....	W. F. Nivison, Morganville.
Matawan	Monmouth	1,310	Chris. Winters	Chris. Winter, Cliffwood.
Maurice River	Cumberland	2,132	Henry Reeves, Jr.	Henry Reeves, Jr., Leesburg.
Medford	Burlington	1,969	Wm. M. Potts	Wm. M. Potts, Medford.
Mendham	Morris	1,600	John Kennedy	John D. Lindsley, Mendham.
Middle	Cape May	2,191	Stillwell H. Townsend ..	Stillwell H. Townsend, Cape May C. H.
Middletown	Monmouth	5,479	Henry D. Smith, Middletown.....	Omar Sickles, Navesink.
Midland	Bergen	1,298	John D. Bogert	John D. Bogert, Ridgewood.
Millburn	Essex	2,837	John M. Drake	John M. Drake, Millburn.
Millstone	Monmouth	1,509	Geo. J. Ely	George J. Ely, Perrineville.
Monroe	Gloucester	2,402	Clayton B. Tice	Clayton B. Tice, Williamstown.
Monroe	Middlesex	1,899	R. R. Vandenberg	Robert B. Vandenberg, Prospect Plains.
Montague	Sussex	710	Geo. N. Cole	George N. Cole, Montague.
Montgomery	Somerset	1,243	Geo. W. Campbell, Griggstown.....	C. B. Allhouse, Harlingen.
Montville	Morris	1,908	Asa T. Cook	Asa T. Cook, Montville.
Morris	Morris	2,571	W. E. Collins, Morristown	C. M. Phillips, Morristown.
Mount Laurel	Burlington	1,644	Wm. P. Lippincott	Wm. P. Lippincott, Hartford.
Mount Olive	Morris	1,221	S. W. Salmon	S. W. Salmon, Mt. Olive.
Mullica	Atlantic	880	John T. Irving, Elwood	W. W. Phillips, Elwood.
Neptune	Monmouth	7,943	Wm. R. O'Brien	Wm. R. O'Brien, Asbury Park.
New Barbadoes	Bergen	1,827	Benj. Romine	Benjamin Romine, Wrightstown.
New Hanover	Burlington	469	W. C. Johnson	W. C. Johnson, New Providence.
New Providence	Union	4,376	Geo. B. Case	George B. Case, Newton.
Newton	Sussex	5,168	M. H. Girvin	Martin H. Girvin, Mt. Holly.
Northampton	Burlington	9,213	Emil J. Foersch, New Durham.....	.....
North Bergen	Hudson .....	.....	.....	.....

List of Sanitary Districts, Showing Population and Names and Addresses of Officers—Continued.

SANITARY DISTRICT.	COUNTY.	Population by Census of 1940.	NAME AND ADDRESS OF SECRETARY.	NAME AND ADDRESS OF REGISTRAR OF VITAL STATISTICS.
<i>Townships—Con.</i>				
North Brunswick.....	Middlesex.....	827	A. E. Bowman, B. F. D., No. 4.....	A. E. Bowman, New Brunswick.
North Plainfield.....	Somerset.....	664	A. F. Voorhies.....	A. F. Voorhies, Plainfield.
Ocean.....	Ocean.....	436	J. H. Wilkins.....	Jonathan H. Wilkins, Waretown.
Ocean.....	Monmouth.....	4,251	H. A. Brinley.....	Howard A. Brinley, Long Branch.
Oldmans.....	Salem.....	1,352	Levi C. Justice.....	Levi C. Justice, Pedricktown.
Orvil.....	Bergen.....	1,207	J. B. Ver Nooy.....	J. B. Ver Nooy, Waldwick.
Overpeck.....	Bergen.....	1,987	.....	S. A. Wilcox, Ridgesfield Park.
Oxford.....	Warren.....	3,095	L. B. Hoggland, M.D., Oxford.....	Edward Parcell, Buttsville.
Pahaquarry.....	Warren.....	257	Jason K. Hill.....	Jason K. Hill, Millbrook.
Palisade.....	Bergen.....	860	Wm. Ely.....	Wm. Ely, New Bridge.
Palmyra.....	Burlington.....	2,300	F. Blackburn.....	F. Blackburn, Palmyra.
Passaic.....	Morris.....	2,141	J. A. Harvey.....	J. A. Harvey, Stirling.
Pemberton.....	Burlington.....	1,493	Barclay Seeds.....	Barclay Seeds, Pemberton.
Pensauken.....	Camden.....	3,145	Harry E. Horner.....	Harry E. Horner, Merchantville.
Pecunnoch.....	Morris.....	3,250	Wm. H. Beam.....	Wm. H. Beam, Pompton Plains.
Pilesgrove.....	Salem.....	1,744	D. F. Davis.....	David F. Davis, Woodstown.
Piscataway.....	Middlesex.....	2,628	Chas. E. Kelly.....	Chas. E. Kelly, New Market.
Pittsgrove.....	Salem.....	2,092	Geo. Schallick.....	George Schallick, Centerton.
Pohatcong.....	Warren.....	2,215	Wesley B. Leuback, Finesville.....	Jacob O. Boyer, Carpentersville.
Plumstead.....	Ocean.....	1,204	Daniel W. Bussom.....	Daniel W. Bussom, New Egypt.
Pompton.....	Passaic.....	2,404	D. Reeves Sloan, Bloomingdale.....	David Beam, Midvale.
Princeton.....	Mercer.....	955	H. N. Van Dyke.....	H. N. Van Dyke, Princeton.
Quinton.....	Salem.....	1,280	Chas. H. For, Alloway.....	Josiah T. Harris, Quinton.
Randolph.....	Morris.....	2,246	D. H. Dalrymple.....	D. H. Dalrymple, Dover.
Raritan.....	Hunterdon.....	4,087	Chas. Alpaugh.....	Chas. Alpaugh, Flemington.
Raritan.....	Middlesex.....	2,801	Wm. T. Woerner.....	Wm. T. Woerner, New Brunswick.
Raritan.....	Monmouth.....	1,524	W. C. Smith.....	W. C. Smith, Keyport.
Readington.....	Hunterdon.....	2,670	David Schomp.....	David Schomp, Pleasant Run.
Ridgefield.....	Bergen.....	2,612	Thomas F. Mallon.....	Thomas F. Mallon, Fort Lee.
Rockaway.....	Morris.....	4,528	David A. Wiggins.....	David A. Wiggins, Rockaway.

List of Sanitary Districts, Showing Population and Names and Addresses of Officers—Continued.

SANITARY DISTRICT.	COUNTY.	Population by Census of 1900.	NAME AND ADDRESS OF SECRETARY.	NAME AND ADDRESS OF REGISTRAR OF VITAL STATISTICS.
<i>Townships—Con.</i>				
Roxbury.....	Morris.....	2,185	E. N. Corwin.....	Edgar N. Corwin, Succasunna.
Saddle River.....	Bergen.....	1,964	Isaac A. Hopper.....	Isaac A. Hopper, Fair Lawn.
Sandyton.....	Sussex.....	939	M. D. Hughes, M.D., Layton.....	John J. Van Sickle, Layton.
Sayreville.....	Middlesex.....	4,155	B. F. Samsel.....	B. F. Samsel, Sayreville.
Shamong.....	Burlington.....	910	Jas. K. Naylor.....	James K. Naylor, Oriental.
Shrewsbury.....	Monmouth.....	3,842	A. C. Harrison, Red Bank.....	Albert L. Ivins, Red Bank.
Southampton.....	Burlington.....	1,904	.....	Lewis S. Brown, Vincentown.
South Brunswick.....	Middlesex.....	2,337	H. E. Hathaway.....	H. E. Hathaway, Monmouth Junction.
South Harrison.....	Gloucester.....	706	Samuel F. Stanger, Harrisonville.....	D. C. Lippincott, Harrisonville.
South Orange.....	Essex.....	1,630	Theo. C. Baker.....	Theodore C. Baker, Maplewood.
Sparta.....	Sussex.....	2,070	John W. Maseker.....	John W. Maseker, Sparta.
Springfield.....	Burlington.....	1,332	Theo. F. Wright.....	Theodore F. Wright, Jobstown.
Springfield.....	Union.....	1,073	J. J. Hof.....	J. J. Hoff, Springfield.
Stafford.....	Ocean.....	1,008	John B. Courtney.....	John B. Courtney, Manahawkin.
Stillwater.....	Sussex.....	1,108	Jos. E. Huff, R. F. D., No. 1.....	Joseph E. Huff, Newton.
Stoe Creek.....	Cumberland.....	934	Reuben A. Fogg.....	R. A. Fogg, Shiloh.
Tabernacle.....	Burlington.....	.....	Geo. H. Wisham.....	Geo. H. Wisham, Vincentown.
Teaneck.....	Bergen.....	768	Jonathan Hawkins.....	Jonathan Hawkins, Englewood.
Tewksbury.....	Hunterdon.....	1,833	H. S. Potter.....	H. S. Potter, Pottersville.
Union.....	Bergen.....	1,590	Thos. E. Buckley.....	Thomas E. Buckley, Kingsland.
Union.....	Hudson.....	.....	.....	.....
Union.....	Hunterdon.....	918	John Little.....	John Little, Jutland.
Union.....	Ocean.....	955	.....	Wm. A. Jones, Barnegat.
Upper Freehold.....	Union.....	4,315	D. Hobart Sayre.....	D. Hobart Sayre, Union.
Upper Penns Neck.....	Monmouth.....	2,112	F. C. Price, M.D., Imlaystown.....	Wm. Quicksall, Hornersstown.
Upper Pittsgrove.....	Salem.....	775	Geo. W. Hewitt.....	George W. Hewitt, Pennsgrove.
Upper.....	Salem.....	1,725	R. A. Robinson.....	R. A. Robinson, Monroeville.
Upper.....	Cape May.....	1,351	Jesse T. Young, Beeley's Point.....	R. Fendall Smith, Marmora.
Vernon.....	Sussex.....	1,738	.....	A. E. Rutherford, Vernon.
Verona.....	Essex.....	2,139	.....	A. E. Hedden, Verona.

List of Sanitary Districts, Showing Population and Names and Addresses of Officers—Continued.

SANITARY DISTRICT.	COUNTY.	Population by Census of 1900.	NAME AND ADDRESS OF SECRETARY.	NAME AND ADDRESS OF REGISTERAR OF VITAL STATISTICS.
<i>Townships—Con.</i>				
Voorhees.....	Camden.....	989	S. H. Gardiner	S. H. Gardiner, Ashland.
Wall.....	Monmouth.....	3,212	Geo. E. Rogers	George E. Rogers, New Bedford.
Walpack.....	Sussex.....	371	.....	Cornelius D. Gunn, Walpack Centre.
Wantage.....	Sussex.....	2,217	S. M. Purcell	S. M. Purcell, Sussex.
Warren.....	Somerset.....	1,008	Peter Newmiller.....	Peter Newmiller, Warrenville.
Washington.....	Bergen.....	782	Nicholas Cleveland.....	N. Cleveland, Westwood
Washington.....	Burlington.....	617	Walter S. Sooy.....	Walter S. Sooy, Green Bank.
Washington.....	Gloucester.....	1,252	C. D. Nicholson	Chas. D. Nicholson, Turnersville.
Washington.....	Mercer.....	1,157	E. K. Cole.....	E. K. Cole, Windsor.
Washington.....	Morris.....	2,280	Geo. H. Sliker.....	George H. Sliker, Pleasant Grove.
Washington.....	Warren.....	1,239	Samuel Rhinehart.....	Samuel Rhinehart, Washington.
Waterford.....	Camden.....	2,161	H. N. Gillon, Berlin.....	Charles D. Heath, Berlin.
Wayne.....	Passaic.....	1,985	Wm. Wilkins.....	Wm. Wilkins, Singac.
Weehawken.....	Hudson.....	5,325	.....
Westampton.....	Burlington.....	567	Hudson B. Haines.....	Hudson B. Haines, Rancocas.
West Amwell.....	Hunterdon.....	839	Geo. H. Carr.....	Geo. H. Carr, Lambertville.
West Deptford.....	Gloucester.....	1,951	James Carter	James Carter, Thorofare
Westfield.....	Union.....	4,328	John M. C. Marsh.....	John M. C. Marsh, Westfield.
West Milford.....	Passaic.....	2,112	C. Schuster.....	Celestine Schuster, Echo Lake.
West Orange.....	Essex.....	6,889	Ditlow Schroll, Jr., West Orange.....	B. L. Williams, West Orange.
West Windsor.....	Mercer.....	1,279	C. H. Mather	C. H. Mather, Lawrence Station.
Weymouth.....	Atlantic.....	972	P. W. Flanagan.....	Providence W. Flanagan, Tuckahoe.
Willingboro.....	Burlington.....	673	.....	James M. Stokes, Rancocas.
Winslow.....	Camden.....	2,392	Michael G. Birdsall.....	Michael G. Birdsall, Tanaboro.
Woodbridge.....	Middlesex.....	7,631	C. M. Little.....	John H. Leiser, Woodbridge.
Woodland.....	Burlington.....	398	Elmer Dunfee.....	Elmer Dunfee, Chatsworth.
Woolwich.....	Gloucester.....	2,291	.....	Samuel Avia, Swedesboro

Report on Contagious Diseases of Animals.

To the Board of Health of the State of New Jersey:

GENTLEMEN—During the year ending November 30th, 1901, cases of anthrax, glanders, suspected rabies and tuberculosis have been reported to the State Board of Health, and in compliance with the general and special legislative enactments, action has been taken in each case to prevent the spread of any one of the contagious diseases of animals mentioned. The occurrence of several isolated cases of anthrax in Salem county received prompt action, and the disease was not transmitted beyond the points of original infection. The meadow lands in Salem and Cumberland counties, situated along the Delaware river, are extensively used for the grazing of cattle, and in every instance in recent years when anthrax has been reported the facts ascertained seem to indicate that the infection is carried by the river water on to the low-lying meadows adjacent to tidal creeks. The outbreak of glanders in Essex county which occurred during the year ending November 30th, 1901, was checked, and during the winter months few cases of the disease were reported. At the present time there is evidence that on account of cases which are concealed by owners there may be a recurrence of the disease. The detailed history of all cases of contagious diseases affecting animals is herewith submitted.

In June, 1902, suspected cases of anthrax were reported at Fort Mott, Salem county, and examination of the animals verified the diagnosis. T. B. Rogers, D.V.S., of Woodbury, was employed to carry out the instructions of this Board, and his report is as follows:

"WOODBURY, N. J., July 17th, 1902.

"DR. HENRY MITCHELL,

"Secretary State Board of Health, Trenton, N. J.:"

"DEAR SIR—On the 24th ult. I received instructions from you to proceed to Fort Mott for the purpose of investigating an outbreak of anthrax in that neighborhood. In company with Dr. Kille, of Salem, who reported the outbreak, I went over the ground and found that the losses were confined to the farms of Joseph Camp and Philip Donegan. In all Camp lost four, and Donegan four, head. These cattle were pastured on a piece of meadow open to the tide. This piece of land forms a rough, almost equilateral triangle, the river forming one side. Considerable excitement prevailed in Salem over the matter, and a provisional quarantine had been placed on the district by the local authorities. I vaccinated the cattle exposed by reason of their nearness to the outbreak, with the exception of the herds of Armstrong and Newell, who declined vaccination until too late. No deaths have occurred since the termination of the second vaccinations on July 14th. It will be noted that the vaccinations were made somewhat slowly. This is accounted for by the fact that the cattle were very wild and were pastured far away from their stables. In addition to this the stables were not provided with stanchions or other means of restraint. Valuable assistance was given by Dr. Richards, U. S. Army, stationed at Fort Mott, whose influence with the farmers rendered my work much more easy and pleasant. In all eighty-five head of cattle were vaccinated. The cause of the outbreak must remain obscure, the most likely supposition being that it came from Wilmington tannery wash. Releases were obtained for all vaccinations, and the owners of cattle were satisfied with the way they were treated by your Board.

"I have the honor to be

"Your obedient servant,

"THOS. B. ROGERS, D.V.S."

The following list shows the number of vaccinations performed :

Joseph Camp	2 cattle.
B. W. Biddle.....	11 "
Philip Donegan,	3 horses..... 7 "
Peter Callahan, Jr. ....	.....19 "
W. P. Van Leer.....	7 horses.....10 "
Christopher Donegan	1 horse .....11 "
Ed. Hann .....	.....14 "
<hr/>	
11	74—Total, 85 head.

August 4th, 1902, Dr. Rogers, of Woodbury, sent a communication to the State Board of Health in which he reported that a cow had died on the farm of William Ervin, Pittsgrove township, near Elmer, and as anthrax existed on Ervin's place last year there was reason to suppose that proper precautions had not been taken by the owner. A quarantine notice was sent to Mr. Ervin, and on August 18th report was received from Samuel Christy, V.S., of Elmer, that the cattle had all been inoculated with anthrax vaccine, and the quarantine restrictions were removed.

August 8th, 1902, Wilmer B. Kille, D.V.S., of Salem, reported the death of a cow on a farm located in Lower Penns Neck township, Salem county. The owner of the animal was John Curry. The cattle had been pasturing on a field of about twenty acres all the spring. Late in July the herd broke into an adjoining pasture consisting wholly of swampy land. In a few days one of the animals was taken sick and died. Upon the death of another animal a specimen was sent by Dr. Kille to the bacteriological laboratory of the State Board of Health, and examination proved that the deaths were caused by anthrax. On August 15th, 1902, the premises were quarantined. The restriction was continued until September 9th, upon which date L. D. Horner, D.V.S., of Woodstown, reported that all animals were in a healthy condition, and that the necessity for isolation no longer existed.

September 28th, 1902, Wilmer B. Kille, D.V.S., of Woodbury, reported a suspected case of anthrax upon a farm located in Elsinboro township, Salem county. The owner of the herd was John Farnkoph. A specimen from a cow which had died was sent to the laboratory of hygiene, but the result of the examination was negative. The animals on the farm were kept under surveillance for several weeks, but no new cases occurred.

The larger number of cases of glanders which have been reported during the year occurred in Essex and Hudson counties.

The following table shows the order in which cases of glanders occurred, with other data which may be of interest:

198 REPORT OF THE BOARD OF HEALTH.

GLANDERS, OCTOBER, 1901, TO OCTOBER, 1902.

Name of sanitary district.	Date and number of cases reported.	Name of person making report.	Disposal of each case.
	1901.		
Jersey City.....	Nov. 30..... 1	D. W. Benjamin.....	Animal destroyed
Little Ferry.....	Dec. 19..... 1	A. Wooda.....	" "
Passaic.....	" 30..... 1	J. P. Lowe, D.V.S.....	" "
	1902.		
Newark	Feb. 26..... 1	D. D. Chandler.....	" "
Passaic.....	Mar. 17..... 1	J. P. Lowe, D.V.S.....	" "
"	" 20..... 2	" "	" "
East Orange.....	Apr. 10..... 2	W. F. Harrison, V.S	" "
Hoboken	May 10.....11	" "	" "
"	" 10..... 1	D. J. Dixon, D.V.S.....	" "
Caldwell.....	" 26..... 2	W. F. Harrison, D.V.S.....	" "
Jersey City.....	" 29..... 5	T. E. Smith, D.V.S.....	" "
Montclair	June 4..... 1	H. N. Parker	" "
Newark	" 23..... 1	W. F. Harrison, D.V.S.....	" "
Passaic.....	July 7..... 1	J. P. Lowe, D.V.S.....	" "
Jersey City.....	" 19..... 1	D. W. Benjamin.....	" "
"	" 25..... 1	"	" "
"	" 28..... 2	"	" "
"	Aug. 4..... 1	"	" "
"	" 8..... 2	"	" "
"	" 9..... 1	"	" "
"	" 11..... 1	"	" "
"	" 12..... 1	"	" "
"	" 15..... 1	"	" "
"	" 18..... 1	"	" "
"	" 21..... 1	"	" "
"	" 28..... 1	"	" "
"	Sept. 4..... 1	"	" "
"	" 16..... 2	"	" "
"	" 18..... 1	"	" "
"	" 20..... 1	"	" "
Clinton Township, } Essex County..... }	" 20..... 1	W. F. Harrison, D.V.S.....	" "
Newark	" 20..... 2	" " "	" "
Hoboken	Oct. 6..... 1	" " "	" "
East Newark.....	" 6..... 1	" " "	" "
Bloomfield.....	" 6..... 1	" " "	" "

Total number of cases reported, 56.

January 28th, 1902, a report was received at the office of the State Board of Health that a number of pigs belonging to Mr. McClellan, of Titusville, Mercer county, had been bitten by a rabid dog. In the absence of E. R. Voorhees, D.V.S., of Somerville, George E. Fetter, D.V.S., made an examination of the animals, but discovered no symptoms of rabies. The owner was instructed as to the oversight and care of the animals, and no cases of the disease developed.

During the year three outbreaks of tuberculosis in cattle have been reported to the State Board of Health, and referred to the Tuberculosis Commission.

Summary of cases receiving attention during the year:

<i>Disease.</i>	<i>Suspected Cases.</i>	<i>Actual Cases.</i>
Anthrax	13	10
Glanders .....	..	56
Rabies	5	..
Tuberculosis .....	..	3
	<hr/>	<hr/>
Total	18	69

Very respectfully,

A. C. HUNT, M.D.,
State Sanitary Inspector.

Report of Bacteriologist.

To the Board of Health of the State of New Jersey:

GENTLEMEN—I have the honor to make the following report on the work of the State bacteriological laboratory during the year ending October 1st, 1902.

The work of the laboratory has continued, in general, as in previous years. The method of making reports and keeping records has been described in previous reports and has not been materially changed. All stained microscopic preparations are kept for reference, for several months.

During the past summer the laboratory was moved from the building in Princeton to new quarters in Trenton. Although it was several weeks from the time the woodwork was torn out of the old laboratory, to the time the new laboratory was completed, the service was continued without one day's interruption. This was not an easy task and many inconveniences were encountered, but the entire outfitting was packed and moved and daily service continued with no extra help in the laboratory.

During the year 582 reports were sent by telegraph, thus indicating that everything that makes the service more prompt adds to its value.

When reports are sent from the laboratory by mail, much time is necessarily taken up in the transit, but the telegraph is better and cheaper than the telephone. If specimens are received on the morning following shipment there need be no long delay in forwarding reports except in the case of specimens of diphtheria. Diphtheria specimens require at least twelve hours after the specimen is received, for the culture to develop, before the examination can be completed, and hence whatever time of day they are received they are not examined until the next morning. But they are examined the following morning if they arrive at the

post-office as late as 7:30 P. M. The quickest service is secured when specimens are sent early enough to reach the laboratory on the same day. Specimens other than those for diphtheria are commonly examined on the same day they arrive, and if not the same day then on the following morning. Specimens received on Saturday and not examined the same day are usually examined the Sunday following. This is always done when telegraphic reply is requested, and this occurs nearly every Sunday. We get the mail and attend to it *every week-day evening* the year round without exception. This makes the work confining, but it is found necessary in order to give good and satisfactory service. For still other reasons it is impossible to close up from Saturday afternoon to Monday morning without very seriously interrupting the service.

For more than two years past the work of the laboratory has been more than one man, with one unskilled assistant, could properly manage. After moving to Trenton, being more accessibly located, we may look for a still further increase in the work. It is certain that if good work is to be continued we must have an increase in the working force of the laboratory. And since we are already crowded for room, wider quarters will be urgently needed as soon as the working force is increased.

All the mailing cases used in sending specimens here for examination are prepared and sent out from this office. None are furnished by manufacturers ready for use. We also make all the culture media we use.

Mailing cases are sent out to repositories in all parts of the State. During the year 5,160 mailing outfits have been prepared and sent out to the various stations for use. The numbers sent to the several stations range all the way from 3 to 438. During the year 31 new repositories have been established, making the total number at present 232. Mailing cases have been sent to 140 of these during the year. The others are supposed to be still supplied with cases previously sent out.

Following is a full list of the repositories for mailing cases:

LIST OF REPOSITORIES FOR MAILING CASES.

Allentown	Carslake's Pharmacy.
Alloway	Dr. W. L. Ewen.
Andover	Dr. J. C. Clark.
Annandale	Dr. W. E. Berkaw.
Arlington	Dr. J. A. Exton.
"	Dr. A. A. Strasser.
Asbury	Dr. F. J. La Riew.
Asbury Park	Board of Health.
Atlantic City	Board of Health.
"	Atlantic City Hospital.
"	A. D. Cuskaden, druggist.
"	H. H. Deakyne, druggist.
"	Wm. F. Ridgeway, druggist.
"	W. C. Wescott, druggist.
Basking Ridge	Dr. F. C. Jones.
Bayonne	Frank N. L'Estrange, druggist.
Belleville	A. H. Osborne, druggist.
Belmar	Board of Health. Dr. Treat.
"	Seaside Pharmacy.
Belvidere	Faust Bros., druggists.
Berlin	Board of Health.
"	W. W. Miller, druggist.
Bernardsville	Dr. J. Meigh.
Beverly	Dr. A. W. Taylor.
Blairstown	Dr. W. C. Allen.
Bloomfield	Geo. M. Wood, druggist.
Boonton	Dr. Jno. L. Taylor.
Bordentown	Paul Traub, druggist.
Bound Brook	Chas. L. Manning, druggist.
"	Lloyd & McNabb, druggists.
Branchville	Dr. E. S. Dalrymple.
Bridgeton	Board of Health.
"	Bridgeton Hospital.
"	Albert S. Elwell, druggist.
Burlington	Jno. W. Davis, druggist.
"	H. B. Weaver, druggist.
Butler	McClue's drugstore.
Caldwell	Dr. E. E. Bond.
Camden	Cooper Hospital.
"	Barrett Bros., druggists.
"	Dr. J. S. Baer, druggist.
"	Geo. M. Beringer, druggist.
"	Dr. R. I. Haines, druggist.
"	F. S. Macpherson, druggist.
"	Geo. J. Pechin, druggist.
Cape May	Dr. Anna M. Hand.
Cape May C. H.	Willets Corson, druggist.
Carlstadt	Board of Health.
Cedarville	Board of Health.
"	Dr. W. P. Glendon.

Chatham	Dr. Pollard.
"	Dr. Geo. M. Swain.
"	Dr. W. J. Wolfe.
Chester	Dr. Harris Day.
Clayton	Dr. C. F. Fialer, druggist.
Closter	Dr. L. B. Parsell.
Collingswood	Wm. A. Chamberlin, druggist.
Columbus	Wells & Son, druggists.
Crosswicks	C. L. Dey.
Dayton	Edgar Carroll, druggist.
Deerfield Street	Dr. E. S. Goudy.
"	Dr. L. B. Phillips.
Delanco	Dr. H. K. Weiler.
Dover	Robert Kilgore, druggist.
Dumont	Dr. J. E. Pratt.
Dunellen	Dr. P. W. Brakeley.
East Millstone	J. C. Thatcher, druggist.
East Orange	F. L. Fieger, druggist.
"	Gillbards' drugstore.
East Rutherford	Board of Health.
Egg Harbor City	Board of Health.
Elizabeth	Board of Health.
"	Elizabeth General Hospital.
"	Richard Frohwein, druggist.
"	Geo. J. Martin, druggist.
"	Oliver & Drake, druggists.
"	William H. Reibel, druggist.
Elmer	Board of Health.
Englewood	Reeder Bros. & Schneider, druggists.
"	L. Rockefeller & Co., druggists.
Englishtown	Dr. W. E. Anderson.
Fanwood	Dr. F. W. Wescott.
Farmingdale	Dr. W. R. Kinmouth.
Flemington	Franklin C. Burk, druggist.
Forked River	Board of Health.
Freehold	Duryee & Conover, druggists.
Frenchtown	E. M. Roche, druggist.
German Valley	Dr. C. N. Miller.
Gladstone	Dr. M. C. Smalley.
Glassboro	A. Trenchard, druggist.
Gloucester	Geo. B. Beakey, druggist.
Gloucester City	W. S. Hilliard, druggist.
Hackensack	Hackensack Hospital.
"	Eugene A. McFadden, druggist.
Hackettstown	C. V. Rea, druggist.
Haddonfield	B. Willard, druggist.
Hainesport	Dr. W. C. Parry.
Hamilton Square	Dr. A. I. Hunt.
Hammononton	Board of Health.
Harrison (Hudson Co.)	Squier's Pharmacy.
Hightstown	D. H. Cunningham, druggist.

Hoboken	Board of Health.
"	Gustave Brandt, druggist.
"	Wm. Kamlah, druggist.
"	A. Schmidt, druggist.
"	Victor Schmidt & Co., druggists.
"	Chas. Sunkel, druggist.
Hopewell	Geo. E. Pierson, druggist.
Imlaystown	Dr. F. C. Price.
Irvington	Dr. A. C. Christian.
Jamesburg	State Reform School.
Jersey City	Maxwell Abernethy, druggist.
"	L. E. Carpenter, druggist.
"	Frederick W. Frey, druggist.
"	John C. Gallagher, druggist.
"	Geo. H. White, druggist.
Keyport	W. E. Warn, druggist.
Lambertville	S. W. Cochran & Co., druggists.
Lawrenceville	School.
Layton	Dr. M. D. Hughes.
Little Falls	S. Austin Reilly.
Long Branch	Board of Health.
"	Monmouth Memorial Hospital.
"	John T. Britton, druggist.
"	J. Rothenberg & Co., druggists.
Lumberton	Prickett's Pharmacy.
Madison	Wm. F. Brown, druggist.
Matawan	Board of Health.
May's Landing	Board of Health.
"	Dr. H. C. James.
Medford	Henry P. Thorn, druggist.
Mendham	Geo. Robinson, druggist.
Merchantville	J. W. Kahleman, druggist.
Metuchen	Board of Health.
"	Dr. W. V. McKenzie.
Middle Valley	Dr. M. S. Simpson.
Milford	Dr. C. H. Darmon.
Millburn	Millburn Pharmacy.
Millville	D. Evans Smith, druggist.
"	Geo. W. Weber, druggist.
Montclair	Benham & Johnson, druggists.
"	Loeser's Pharmacy.
Moorestown	Board of Health.
Morris Plains	State Hospital.
Morristown	Henry M. Smith, druggist.
Mount Holly	E. B. Jones, druggist.
Mullica Hill	Dr. S. F. Ashcraft.
Newark	Dr. T. W. Corwin.
New Brunswick	Wm. Rust & Sons, druggists.
"	J. H. Van Deurzen, druggist.
Newton	Board of Health.
North Plainfield	Board of Health.
Nutley	Henry T. Lefferts, druggist.
Ogdensburg	Dr. L. C. Burd.

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Orange	Orange Memorial Hospital.
"	Abram Master, druggist.
"	S. V. Beegle, druggist.
Oxford	James A. Allen, druggist.
Palmyra	Dr. L. L. Sharp.
Park Ridge	Dr. H. C. Neer.
Parsippany	Dr. E. P. Cooper.
Passaic	Carroll Drug Company.
"	Otto Lane, druggist.
"	Van Riper & Co., druggists.
Paterson	Board of Health.
"	Gurdon E. Pellett, druggist.
Perth Amboy	Board of Health.
Pitman	Dr. L. N. Slaughter.
Plainfield	Board of Health.
"	Muhlenberg Hospital.
Pleasantville	Dr. J. H. Worth, Jr.
Pompton Lakes	Dr. J. O. Morgan.
Port Norris	Dr. S. T. Day.
Port Oram	Dr. H. W. Kice.
Princeton	Marsh & Burke, druggists.
"	W. L. Briner, druggist.
Rahway	Geo. F. Brown, druggist.
Ramseys	Dr. C. P. De Yoe, druggist.
Raritan	Board of Health.
Red Bank	Chas. A. Minton & Co., druggists.
Ridgefield Park	Dr. Henry C. Elsing.
Ridgewood	H. A. Tice, druggist.
"	Dr. W. S. Vroom.
Riverside	Warren C. Pine, druggist.
Riverton	Dr. Alex. Maroy, Jr.
Rockaway	Dr. F. W. Flagge.
"	Dr. Geo. H. Foster.
Roselle	Jay W. Rewalt, druggist.
Rutherford	Board of Health.
Salem	John E. Davis, druggist.
"	Loesser's drugstore.
Seabright	Seabright Pharmacy.
Somerville	James N. Case, druggist.
South Amboy	Dr. Anna Manning.
South Bound Brook	Dr. J. T. Robinson.
South Orange	James W. Gladhill, druggist.
"	Mrs. J. A. Griffing, druggist.
South River	Dr. T. W. Bissett.
Springfield	Dr. J. A. Stites.
Stanhope	Nelden's Pharmacy.
Stewartsville	Dr. F. W. Curtis.
Succasunna	Dr. N. H. Adsit.
Summit	Wm. H. Rogers.
Sussex	Dr. H. D. Van Gaasbeek.
Swedesboro	Guest & Guest, druggists.
Toms River	Dr. Frank Bronwer.
"	Dr. R. R. Jones.

Town of Union (Weehawken P. O.)	August Frank, druggist.
Trenton	Board of Health.
"	Mercer Hospital.
"	D. Wiley Baker, druggist.
"	Albert G. Holcombe, druggist.
"	G. D. Laird, druggist.
"	Lewis W. Long, druggist.
"	James L. Mathis, druggist.
"	John J. Strasser.
Tuckahoe	Dr. J. S. Douglass.
Verona	Verona Pharmacy.
Vincetown	Frank S. Hilliard, druggist.
Vineland	Alfred M. Pierson, druggist.
Wanaque	Dr. D. N. Shippee.
Washington	Dr. Chas. M. Williams.
Weehawken Heights	Wm. Kyvitz, druggist.
Westfield	Bayard Pharmacy.
West Hoboken	Frank H. Eckert, druggist.
Westwood	Dr. Theodore E. Townsend.
Whippany	Dr. Harry S. Wheeler.
Williamstown	Dr. J. G. Edwards.
Woodbridge	Dr. B. W. Hoagland.
"	Dr. I. T. Spencer.
Woodbury	J. W. Merritt, druggist.
Woodstown	Harry Guest, druggist.

The following tables indicate the examinations made in the laboratory during the past year. Table 1 shows how many examinations were made for each disease during each month, for all diseases during each month and for all diseases during the year. The daily average for the year is indicated at the end of the table. It may be seen that the diseases for which examinations are most frequently made are diphtheria, pulmonary tuberculosis, typhoid fever and malaria in the order named. The work continues with no abatement through the year. The month when the least number of examinations was made was the short month of February, with an average of over ten for every week-day, or nine for every day in the month.

TABLE 1.—SHOWING NUMBER OF SPECIMENS EXAMINED FOR DIAGNOSIS IN THE STATE BACTERIOLOGICAL LABORATORY, BY MONTHS, FOR THE YEAR ENDING SEPTEMBER 30TH, 1902.

	October.	November.	December.	January.	February.	March.	April.	May.	June.	July.	August.	September.	Year.
Diphtheria.....	193	174	157	165	95	125	103	99	101	97	63	115	1,487
Tuberculosis.....	135	121	117	116	111	126	122	152	110	122	102	133	1,467
Typhoid fever.....	91	58	65	48	35	51	60	57	54	98	130	137	884
Malaria.....	29	11	11	5	10	8	9	6	19	28	32	28	196
Miscellaneous.....	2	13	7	.....	.....	4	8	9	2	3	3	4	55
Totals.....	450	377	357	334	251	314	302	323	286	348	330	417	4,089

Daily average, including Sundays and holidays, 11.2.

Daily average for 305 working days, 13.4.

Daily average for all week-days, including holidays, 13.

Table 2 shows the number of specimens examined for the several diseases and all examinations from each county. It will be seen that all the counties of the State are included, although Ocean and Cape May sent only four and five specimens, respectively, while Essex sent 543 and Union sent 1,031. A number of specimens were received with the report blanks improperly filled out and with nothing to show where the specimens came from. Most of them were examined and some were reported upon when inquiry was made, but in a few instances no inquiry was made and the sender of the specimen could never be located and the examination therefore could not be reported. These are included in the table under "unknown."

TABLE 2.—SHOWING NUMBER OF SPECIMENS EXAMINED FOR DIAGNOSIS IN THE STATE BACTERIOLOGICAL LABORATORY, BY COUNTIES, FOR THE YEAR ENDING SEPTEMBER 30TH, 1902.

DISEASES BY COUNTIES.	Diphtheria.	Tuberculosis.	Typhoid fever.	Malaria.	Miscellaneous	Total by counties.
Atlantic.....	30	36	77	1	3	147
Bergen.....	55	109	70	10	.....	244
Burlington	28	22	10	.....	.....	60
Camden.....	44	138	36	1	14	233
Cape May.....	1	3	1	.....	.....	5
Cumberland	8	101	43	.....	.....	152
Essex.....	112	179	212	38	2	543
Gloucester.....	3	25	1	.....	2	31
Hudson	21	89	22	.....	.....	132
Hunterdon.....	14	18	4	27	.....	63
Mercer.....	32	91	67	16	14	220
Middlesex	33	68	41	7	.....	149
Monmouth	63	124	58	53	5	303
Morris.....	81	58	33	25	1	198
Ocean.....	2	2	.....	.....	.....	4
Passaic.....	32	140	13	.....	.....	185
Salem.....	4	25	.....	.....	8	37
Somerset.....	66	28	5	.....	1	100
Sussex.....	148	34	10	4	3	199
Union.....	679	161	175	14	2	1,031
Warren.....	26	18	4	.....	.....	43
Unknown.....	5	3	2	.....	.....	10
The State by diseases.....	1,487	1,467	884	196	55	.....
Grand total.....						4,089

Table 3 shows how many of the examinations for the several infections were primary or first examinations of the cases in question, and how many were secondary and later examinations from cases previously examined. The same table shows the number of positive and negative results. In diphtheria examinations the number of secondary examinations and positive results might be much larger but for the fact that in very many instances no specimen was sent for diagnosis in the first stages of the disease, but was only sent during convalescence to determine when quarantine should be discontinued. It will also be seen that a number of examinations gave doubtful results. Most of these are due to unsatisfactory specimens, but some are due to various accidents incident to the work.

TABLE 3.—SHOWING NUMBER OF PRIMARY AND SECONDARY EXAMINATIONS OF SPECIMENS IN THE STATE BACTERIOLOGICAL LABORATORY, WITH RESULTS OF THE WORK, FOR THE YEAR ENDING SEPTEMBER 30TH, 1902.

	Primary exami- nations.	Secondary exami- nations.	RESULTS.			Totals.
			Positive.	Negative.	Doubtful.	
Diphtheria.....	1,033	454	644	813	30	1,487
Tuberculosis.....	1,337	130	521	933	13	1,467
Typhoid fever.....	791	93	285	575	24	884
Malaria.....	165	31	74	94	23	196
Miscellaneous.....	54	1	14	35	6	55
Totals.....	3,380	709	1,538	2,450	101	4,089

Respectfully submitted,

HARMON O. BALDWIN.

Food and Drugs.

To the Board of Health of the State of New Jersey:

GENTLEMEN—I hereby submit my annual report, as chief inspector of food and drugs, for the year ending October 31st, 1902.

The inspection of milk has been conducted in every section of the State. The accompanying table will show that nearly 2,000 samples have been collected for analyses, as a result of inspections made at farms, milk depots, grocery stores, creameries and milk wagons, to determine their purity and detect possible adulteration. Inspecting dairy premises has claimed much of our time, enabling us to secure records of premises where milk is produced. Under the provisions of the law which provides a penalty for the keeping of cows in a crowded or unhealthy condition, five prosecutions were brought against offending proprietors, with results shown elsewhere in this report. The inspectors' records show that in grocery stores milk is usually kept in cans under counters, uncovered and subject to the emanations from all kinds of decomposing matter. Sometimes it is stored in a refrigerator containing meats and vegetables. The dipping is unguarded, being done, often, by children, under the most untidy and unintelligent methods. In the summer, when the temperature is high, this field is fertile for the development of harmful bacteria. I would recommend that milk sold in grocery stores be served only in sealed bottles and kept at a temperature below 50° F.

There are eighty-seven creameries in this State, and a list of those inspected, with their locations, is included in this report. I am here able to report on thirty-eight of these, but another year I hope to present a record of every creamery in the State. As the milk here is held in storage for different periods and manipulated for different purposes, such as skimming, butter-making and shipping for domestic purposes, every precautionary measure should be taken for safeguarding against contamination. The creamery

building should be located on high ground and the water-supply should be pure and wholesome. The floors of a creamery should be so graded as to drain off the water, and this waste should be carried through suitable conduits, properly trapped, and be conducted beyond the reach of returning odor and never allowed to accumulate near the creamery buildings. The pumps, churns and other apparatus should be so constructed as to allow their sections to be thoroughly cleaned and sterilized. These are important points to be observed in creamery inspection, beside others, pointed out on the record forms used by the inspectors, who are instructed to observe and report all defects in creamery construction and operation, to the end that the Board may be enabled to suggest improvement.

An important feature of this subject, to which I ask your attention, is the matter of filling bottles from cans in milk wagons during the process of serving.

Each sample of milk received from June 1st to October 1st was examined for the presence of preservatives, and special attention was given to the milk-supply of summer resorts, from the opening of the season to its close. It is gratifying to report that but few samples contained preservatives, a marked improvement over preceding years, and these cases were followed with prompt prosecutions. The following table shows results of the analyses of preserved milk samples on which prosecutions were based:

<i>Inspector's Number.</i>	<i>Place.</i>	<i>Preservatives.</i>	<i>Total Milk Solids.</i>
A 550	Phillipsburg	Boracic acid	13.00
A 551	"	"	13.24
D 746	Long Branch	Formaldehyde	38.50 Cream
D 752	"	"	12.80
C 794	Ocean City	"	12.10
C 797	Atlantic City	"	11.94
C 802	"	"	13.36
C 804	"	"	13.04
C 808	"	"	11.00
C 812	"	"	12.30
C 815	Camden	"	13.00
C 820	"	"	13.28

The following list shows the result of the analyses of milk samples found to be below the State standard of 12 per cent.: 8.80, 9.60, 9.76, 9.90, 10.00, 10.00, 10.20, 10.20, 10.23, 10.28, 10.40, 10.40, 10.50, 10.54, 10.56, 10.60, 10.70, 10.74, 10.90, 11.00, 11.00, 11.00, 11.00, 11.00, 11.04, 11.04, 11.10, 11.10, 11.10, 11.20, 11.20, 11.20, 11.24, 11.24, 11.30, 11.30, 11.30, 11.30, 11.30, 11.34, 11.40, 11.40, 11.40, 11.40, 11.40, 11.40, 11.40, 11.50, 11.50, 11.50, 11.54, 11.60, 11.60, 11.60.

Following is a list of the inspections made of milk depots, creameries and dairy premises during the year:

LOCATION OF MILK DEPOTS.	Number inspected.	LOCATION OF CREAM- ERIES.	Number inspected.	LOCATION OF DAIRY PREMISES.	Number inspected.
Atlantic City.....	3	Burlington County.....	1	Burlington County.....	9
Camden.....	79	Camden County.....	1	Camden County.....	15
Elizabeth.....	15	Cumberland County...	2	Gloucester County.....	8
Gloucester.....	2	Gloucester County.....	1	Hudson County.....	19
Jersey City.....	9	Hunterdon County.....	11	Mercer County.....	14
Morristown.....	1	Middlesex County.....	1	Salem County.....	1
Newark.....	12	Salem County.....	9	Somerset County.....	1
Newton.....	4	Somerset County.....	4	Sussex County.....	2
Passaic.....	7	Sussex County.....	7	.....	.....
Paterson.....	5	Warren County.....	1	.....	.....
Pitman Grove.....	1	.....	.....	.....	.....
Plainfield.....	1	.....	.....	.....	.....
Rutherford.....	1	.....	.....	.....	.....
Trenton.....	6	.....	.....	.....	.....
Valley.....	1	.....	.....	.....	.....
West Portal.....	1	.....	.....	.....	.....
Total.....	148	.....	38	.....	69

MILK SAMPLES ANALYZED.

PLACE.	Total samples collected.	Up to standard	Below standard.	Per cent. below standard.	Number containing preservatives.	Highest per cent. milk solids.	Lowest per cent. milk solids.
Allenhurst.....	66	66	.....	.....	.....	14.30	13.15
Annandale.....	8	7	1	12.50	.....	14.00	11.72
Atlantic City.....	59	56	3	5.08	7	14.24	11.00
Atlantic Highlands.....	4	4	.....	.....	.....	13.34	12.74
Asbury.....	26	25	1	3.84	.....	14.00	11.60
Asbury Park.....	44	39	5	11.36	.....	15.08	10.50
Avon.....	5	4	1	20.00	.....	13.20	11.95
Bayonne.....	11	11	.....	.....	.....	13.30	12.50
Belmar.....	6	6	.....	.....	.....	13.20	12.30
Belvidere.....	5	5	.....	.....	.....	13.00	12.50
Blackwood.....	6	6	.....	.....	.....	14.10	12.40
Blairstown.....	21	20	1	4.76	.....	13.80	8.80
Blenheim.....	2	.....	2	100.00	.....	11.70	11.00
Bloomsbury.....	3	3	.....	.....	.....	13.00	12.30
Boonton.....	4	4	.....	.....	.....	13.15	12.70
Bordentown.....	9	9	.....	.....	.....	13.96	12.40
Bradley Beach.....	1	1	.....	.....	.....	13.20	13.20
Branchville.....	2	2	.....	.....	.....	12.90	12.75
Bridgeton.....	10	10	.....	.....	.....	13.30	12.10
Birmingham.....	6	6	.....	.....	.....	15.00	13.84
Burlington.....	13	13	.....	.....	.....	15.04	12.28
Butler.....	4	4	.....	.....	.....	13.50	13.20
Caldwell.....	2	1	1	50.00	.....	12.50	11.70
Camden.....	269	257	12	4.42	2	15.80	8.40
Cape May.....	14	14	.....	.....	.....	14.90	12.10
Clinton.....	4	3	1	25.00	.....	13.44	11.80
Colestown.....	4	3	1	25.00	.....	14.24	11.84
Deacon Station.....	6	6	.....	.....	.....	15.00	13.44
Dover.....	13	12	1	7.69	.....	13.90	10.90
East Orange.....	3	3	.....	.....	.....	13.80	13.14
Elizabeth.....	34	23	6	1.76	.....	13.85	8.84
Englewood.....	8	8	.....	.....	.....	13.40	12.75
Everettstown.....	5	4	1	20.00	.....	13.74	11.70
Fairfield.....	1	1	.....	.....	.....	12.97	12.97
Flemington.....	21	19	2	.....	.....	14.20	11.50
Freehold.....	3	3	.....	.....	.....	13.30	12.70
Frenchtown.....	7	4	3	.....	.....	13.60	10.16
Garfield.....	6	6	.....	.....	.....	13.15	12.20
Glenview.....	4	2	2	50.00	.....	12.76	11.20
Gloucester.....	12	10	2	16.66	.....	13.40	11.62
Great Meadows.....	3	3	.....	.....	.....	13.25	12.75
Greenlock.....	1	.....	1	100.00	.....	11.40	11.40
Hackettstown.....	5	5	.....	.....	.....	13.00	12.30
Haddonfield.....	7	7	.....	.....	.....	13.60	13.12
Hamburg.....	21	20	1	4.76	.....	13.40	11.20
Hamburg Junction.....	3	3	.....	.....	.....	13.00	12.50
Harrison.....	7	7	.....	.....	.....	13.00	12.65
Hartford.....	7	7	.....	.....	.....	13.20	12.35

MILK SAMPLES ANALYZED—Continued.

PLACE.	Total samples collected.	Up to standard.	Below standard.	Per cent. below standard.	Number containing preservatives.	Highest per cent. milk solids.	Lowest per cent. milk solids.
Hoboken.....	56	52	4	.....	.....	13.55	10.80
Hopewell.....	18	16	2	11.00	.....	13.80	11.40
Huntsville.....	4	4	.....	.....	.....	13.20	12.40
Hurfield.....	5	5	.....	.....	.....	13.40	12.80
Irvington.....	12	12	.....	.....	.....	14.64	12.00
Jersey City.....	81	71	10	12.34	.....	13.50	10.23
Kirkwood.....	15	15	.....	.....	.....	13.50	12.50
Lorraine.....	2	.....	2	100.00	.....	10.80	10.20
Lawrenceville.....	7	3	4	57.14	.....	14.20	10.20
Little Falls.....	2	2	.....	.....	.....	12.90	12.66
Long Branch.....	31	27	4	12.90	1	15.40	10.00
Long Bridge.....	3	3	.....	.....	.....	13.30	13.00
Madison.....	1	1	.....	.....	.....	13.25	13.25
Mantico.....	1	1	.....	.....	.....	13.12	13.12
Mantua.....	4	4	.....	.....	.....	13.36	12.04
Marksboro.....	6	6	.....	.....	.....	13.30	12.55
Millville.....	7	7	.....	.....	.....	15.76	12.50
Monroe.....	3	3	.....	.....	.....	13.30	13.00
Montclair.....	12	12	.....	.....	.....	13.40	12.40
Moorestown.....	4	4	.....	.....	.....	16.80	12.60
Morris Plains.....	6	2	4	66.66	.....	13.80	8.60
Morristown.....	29	29	.....	.....	.....	14.20	12.00
Mount Ephraim.....	6	6	.....	.....	.....	12.80	12.14
Mount Holly.....	3	3	.....	.....	.....	12.75	12.30
Mulforda.....	4	4	.....	.....	.....	13.00	12.75
Neshanic.....	2	2	.....	.....	.....	13.70	12.50
Newark.....	11	11	.....	.....	.....	13.52	12.10
New Bedford.....	2	2	.....	.....	.....	13.40	13.02
New Brunswick.....	7	5	2	23.57	.....	13.50	10.00
Ocean City.....	4	2	2	50.00	.....	12.64	11.86
Orange.....	12	10	2	16.66	.....	13.90	10.50
Pappacating.....	10	8	2	20.00	.....	13.50	11.00
Passaic.....	50	43	7	14.00	.....	13.50	10.50
Paterson.....	142	129	13	9.45	.....	13.53	10.56
Pennington.....	13	13	.....	.....	.....	14.20	12.70
Penns Grove.....	4	3	1	25.00	.....	13.90	11.60
Perth Amboy.....	38	32	6	15.76	.....	14.16	10.90
Phillipsburg.....	7	7	.....	.....	2	13.40	12.85
Pitman Grove.....	4	4	.....	.....	.....	14.88	12.50
Plainfield.....	43	35	8	18.06	.....	14.00	9.90
Point Pleasant.....	2	2	.....	.....	.....	13.70	12.50
Princeton.....	27	27	.....	.....	.....	15.70	12.30
Quarryville.....	10	8	2	20.00	.....	13.30	11.30
Rahway.....	10	9	1	10.00	.....	13.56	11.50
Ridgewood.....	6	6	.....	.....	.....	12.60	12.20
Ringoes.....	11	11	.....	.....	.....	14.40	12.30
Rutherford.....	1	1	.....	.....	.....	13.00	13.00
Salem.....	7	7	.....	.....	.....	14.30	13.10

MILK SAMPLES ANALYZED—*Continued.*

PLACE.	Total samples collected.	Up to standard.	Below standard.	Per cent. below standard.	Number containing preservatives.	Highest per cent. milk solids.	Lowest per cent. milk solids.
Seabright.....	4	3	1	25.00	.....	14.10	11.98
Sharptown.....	4	4	.....	.....	.....	14.40	12.80
Skillmans.....	15	15	.....	.....	.....	14.60	12.95
Sparta.....	2	2	.....	.....	.....	13.00	12.60
Spring Lake.....	3	3	.....	.....	.....	15.10	13.10
Stanhope.....	4	4	.....	.....	.....	13.80	12.70
Stillwater.....	7	7	.....	.....	.....	13.00	12.35
Summit.....	11	10	1	9.09	.....	13.50	11.86
Sussex.....	16	16	.....	.....	.....	13.50	12.50
Swartswood.....	2	2	.....	.....	.....	13.00	12.85
Three Bridges.....	16	15	1	6.25	.....	14.60	11.50
Toms River.....	5	4	1	20.00	.....	14.20	11.90
Totowa.....	10	10	.....	.....	.....	13.50	12.75
Tranquility.....	3	3	.....	.....	.....	12.90	12.60
Trenton.....	246	227	19	7.72	.....	15.66	8.44
Union Hill.....	15	14	1	6.66	.....	13.50	9.60
Vails.....	3	3	.....	.....	.....	13.00	12.50
Valley.....	1	1	.....	.....	.....	12.50	12.50
Verona.....	1	1	.....	.....	.....	12.50	12.50
Vineland.....	3	3	.....	.....	.....	13.20	12.00
Washington.....	5	5	.....	.....	.....	13.40	12.77
Wenonah.....	1	1	.....	.....	.....	12.10	12.10
Westfield.....	9	8	1	11.11	.....	13.30	11.90
West Grove.....	1	1	.....	.....	.....	13.30	13.30
Westville.....	14	13	1	7.14	.....	13.45	11.90
Whitehouse.....	8	8	.....	.....	.....	13.90	12.00
Woodbury.....	8	7	1	.....	.....	14.40	11.74
Woodstown.....	16	16	.....	.....	.....	14.15	12.14

SUMMARY.

Total number samples examined.....	1,961
“ “ above standard.....	1,821
“ “ below standard.....	140
Per cent. of adulteration.....	.071
Total solids in highest sample.....	16.80
“ “ lowest sample.....	8.40
Number of cities and towns from which samples received.....	123

Following is a list of the creameries in New Jersey:

Burlington County.—W. B. Plasket, Hartford; Montgomery Smith, Pemberton.

Cumberland County.—S. M. Ogden, Bridgeton; S. M. Ogden, Millville.

Hunterdon County.—Asbury; New York Produce Dairy Co., Annandale; George H. Scott, Baptistown; A. E. Slockbower, Bloomsbury; L. D. Sutton, Califon; Theodore M. Moyer, Everettstown; Seiler Brothers, Flemington; J. F. Force, Glen Gardner; Isaac Hoffman, Hoffmans; Hoffdale Creamery Co., Hoffdale; Wm. Strause, Idyll; George Clark, Lebanon; Co-operative Creamery, Locktown; Mr. Durling, New Germantown; J. H. Shawack, Pattenburg; Stover L. Moyer, Pittstown; Amwell Valley Dairy Co., Reaville; William Strause, Ringoes; Wm. Strause, Rosemount; Wm. Strause, Sergeantville; Joseph K. Jones, Stockton; J. Wycoff, Sunnyside; Mr. Durling, Three Bridges; Charles T. Vail, Valley; Samuel Levy, White House; Peter Hernig, Wertzville.

Mercer County.—Mr. Hurley, Pennington; Peter Hernig, Hopewell.

Middlesex County.—Middlesex Dairy Co., Cranbury; W. W. Teneyck, Highland Park; George Gilbert, New Brunswick.

Monmouth County.—Allentown Dairy Co., Allentown.

Morris County.—Clark & Hoffman, Middle Valley; Quell Bros., Naughtright; Jewell Bros., Flanders; F. Beach, Beach Glen; Henry M. Shelley, Littleton; Harry Backus, Troy Hills; Seiler Bros., Troy Hills; Max Wensel, Glen View; George Harden, Chester; George W. Bates, Passippany.

Salem County.—J. H. Vanleer, Alloways; L. E. Mack, Daretown; H. C. Cramer, Elmer; S. T. Wuetzell, Elmer; John Q. Davis, Salem; William Richman, Sharptown; Joseph H. Reeve, Woodstown; C. F. Moore, Woodstown.

Somerset County.—Chas. H. Cook, Belle Meade; Farmers' Exchange Co., Montgomery; Greenwich Dairy Co., Neshanic; Mr. Dennis, Neshanic; Farmers' Exchange Co., South Branch; John B. Longshore, Skillmans.

Sussex County.—Horton & Lewis Ice Cream Co., Sussex Borough; Reardon & Doremus, Sussex Borough; C. H. O. Beakes Dairy Co., Sussex Borough; Pound & Thorn, Quarryville; S. C. Hayne, Clove; Wilmarth Robinson, Hamburg; W. E. Rogers & Co., Hamburg; George Ihnken, Stockholm; George Ihnken, Sparta; Empire State Dairy Co., Warbasses; McDermott-Bunger Dairy Co., Stillwater; George Ihnken, Swartswood; Borden's, Pelletstown; H. O. Jewell Co., Baleville; T. O. Smith's Sons, Augusta; F. W. Fulboam, Branchville; F. W. Fulboam, Bevans; F. W. Fulboam, Beemerville; F. W. Fulboam, Stillwater Crossing; F. W. Fulboam, Monroe Crossing; Metropolitan Milk and Cream Co., Monroe; F. W. Fulboam, Mulford's; Robinson & Hawkins, Vernon; H. S. Chardavoyne, McAfee; Daniel Bailey, Glenwood; W. A. Wright, Andover; Century Milk Co., Newton; F. W. Fulboam, Huntsville; Newark Milk and Cream Co., Lafayette.

Warren County.—Robinson & Hawkins, Belvidere; Sanford Dairy Co., Great Meadows; Sugarloaf Dairy Co., Long Bridge; Sugarloaf Dairy Co., Allamuchy; Sugarloaf Dairy Co., Tranquillity; F. D. Jackson, Delaware; Alex. Campbell Dairy Co., Hackettstown; Empire State Dairy Co., Blairstown; S. Roy, Marksboro; H. Tepperwin, Vails; S. Demerest, Hainesburg; Max Wensel, Changewater; Meadowbrook Dairy Co., Changewater; F. D. Jackson, Bridgeville; Sugarloaf Dairy Co., Vienna.

Inspections for the purpose of detecting violations of the act governing the sale of imitation butter resulted in fifty-one prosecutions and the collection of \$1,700 in fines.

TABLE SHOWING RESULTS OF BUTTER INSPECTIONS

PLACE.	SUBSTANCES COLLECTED.		Purchased for butter. Found to be oleomargarine. Marked according to law.	RESULTS OF ANALYSES.	
	Butter.	Oleo.		Butter.	Oleo.
Asbury Park	10	1	3	7	1
Atlantic City.....	8	1	.....	7	2
Bayonne.....	7	.....	2	2	3
Belvidere.....	3	.....	.....	3	.....
Blairstown.....	3	.....	.....	3	.....
Boonton.....	3	.....	.....	3	.....
Bound Brook.....	2	.....	.....	2	.....
Butler	13	.....	.....	13	.....
Camden	84	6	.....	76	14
Dover.....	5	5	2	3	5
Elizabeth	21	6	2	16	9
Englewood.....	4	.....	.....	4	.....
Fanwood.....	1	1	.....	1	1
Garfield.....	7	1	.....	7	1
Glendoro.....	1	.....	.....	1	.....
Groveville.....	1	.....	.....	1	.....
Guttenburg.....	1	.....	.....	.....	1
Hackensack	8	.....	.....	4	4
Hackettstown.....	6	.....	2	4	.....
Harrison	2	.....	.....	.....	2
Hoboken	18	.....	4	14	.....
Irvington.....	7	.....	.....	7	.....
Jersey City.....	47	5	9	33	10
Lake View.....	1	.....	1	.....	.....
Long Branch	7	.....	.....	7	.....
Madison	11	.....	.....	11	.....
Maywood.....	1	.....	1	.....	.....
Merchantville.....	4	.....	1	3	.....
Montclair	1	.....	.....	1	.....
Morristown	7	.....	.....	7	.....
Newark	75	3	20	52	6
New Brunswick	25	.....	2	16	7
Newton.....	1	.....	.....	1	.....
Orange.....	6	.....	.....	4	2
Passaic.....	35	3	12	20	6
Paterson	50	14	13	26	25
Perth Amboy.....	20	.....	1	14	5
Pequanac	1	.....	.....	1	.....
Phillipsburg	13	.....	.....	12	1
Plainfield	10	.....	.....	6	4
Pompton Plains.....	1	.....	.....	1	.....
Princeton.....	3	2	.....	3	2
Rahway	18	.....	2	12	4
Ridgefield Park	2	.....	.....	2	.....
Ridgewood.....	4	.....	.....	4	.....
Rockaway.....	6	.....	.....	6	.....
Rutherford.....	13	1	1	11	2

TABLE SHOWING RESULTS OF BUTTER INSPECTIONS—*Continued.*

PLACE.	SUBSTANCES COLLECTED.		Purchased for butter. Found to be oleomargarine Marked according to law.	RESULTS OF ANALYSES.	
	Butter.	Oleo.		Butter.	Oleo.
Stanhope.....	4	.....	4	.....	.....
Summit.....	4	1	.....	4	1
Totowa.....	10	.....	3	7	.....
Trenton.....	30	9	.....	21	18
Verona.....	2	2	.....	1	3
Yardville.....	2	.....	.....	2	.....
Washington.....	4	.....	.....	2	2
Westfield.....	7	.....	.....	7	.....
Westville.....	1	.....	1	.....	.....
Total.....	641	61	86	475	141

SUMMARY.

Number of suspected butter samples examined.....	641
“ found to be genuine.....	475
“ “ “ oleomargarine	141
“ samples bought for butter but bearing the oleomargarine label....	86
“ “ “ as oleomargarine and sold in compliance with the law	61
“ towns from which samples were taken.....	56

One hundred and seventy-six samples of food, other than milk and butter, were examined during the year. Ninety-nine of these were of good quality and seventy-seven were inferior. The molasses and syrups were adulterated with glucose, in quantities varying from 7.9 per cent. to 67.4 per cent. Attention is drawn to the fact that of the twenty specimens of olive oil examined, eight were free from adulteration, and all of these were purchased from grocers. The remaining twelve specimens were adulterated, and these were bought in drug stores. The examinations of mince meats, in previous years, have frequently shown the presence of salicylic acid. In contrast to this, the ten samples examined this year were free from any preservative. Of the twenty-nine samples of vinegar examined, sixteen were not equal to the standard required by law. The twelve samples of meat referred to in the

following table, known as Hamburg steak, were collected from butcher shops, in consequence of information received that decomposed meats were chopped and restored by the use of large quantities of boracic acid. Four of the eight samples examined confirmed the suspicion of the use of the drug, but in the quantity collected, a quantitative analysis was not practicable. Boracic acid was also found in three of the twelve sausage samples, and in one of the two samples of scrapple. The following list shows the number of food samples examined and their qualities: Chocolate—Six samples were examined, one containing iron coloring matter. Cocoa—Eight samples were purchased, one of which contained 30 per cent. of starch and four some coloring matter. Coffee—Eight samples of coffee examined; two were adulterated with peas, chickory, &c. Cream of tartar—Twenty-four samples examined; two were adulterated with phosphate of lime, alum and flour. Flavoring extracts—Four of the six samples of vanilla ext. were of good quality. Hamburg steak—Twelve samples purchased; four of these contained boracic acid. Maple syrup—Three of the four samples examined were of good quality; one contained 4.6 per cent. of glucose. Mince meat—The ten samples were found to be free from any preservative. Molasses—Six samples were examined; only one of them proved to be free from glucose; five contained glucose in quantities varying from 7.9 per cent. to 67.4 per cent. Mustard—Twelve samples examined; eleven showed the presence of flour and tumeric. Pepper—Of the twenty samples examined, seventeen were of poor quality. Olive oil—Eight of the samples purchased were found to be pure. Sausage—Three of the thirteen samples contained boracic acid. Scrapple—One of the two samples of scrapple contained boracic acid. Syrup—The entire eight samples collected contained glucose; the maximum amount found was 76.7 per cent., and the minimum, 27.4 per cent. Vinegar—Twenty-nine samples were examined; sixteen were deficient in acetic acid. The maximum acidity was 7.7 per cent., and the minimum, 2.85 per cent.

SUMMARY OF SUITS INSTITUTED.

For the fraudulent sale of milk.....	72
“ “ “ “ “ butter	51
“ “ “ “ “ foods, other than milk and butter.....	8
“ “ “ “ “ drugs	29
“ resisting an officer in the discharge of his duty.....	1
“ the keeping of cows in a crowded or unhealthy condition.....	5
Total.....	<hr/> 166

FINES.

The amount of fines paid to the State Treasurer, under the Food and Drug and Oleomargarine laws, were as follows:

Under the Food and Drug law for the sale of adulterated milk.....	\$2,250
“ “ “ “ “ “ “ “ “ drugs	850
“ “ “ “ “ “ “ “ “ foods other than milk and butter	50
“ “ “ “ “ “ “ “ “ keeping of cows	
For the production of milk in a crowded or unhealthy condition.....	50
Under the Oleomargarine laws.....	<hr/> 1,700
Total.....	\$4,900

The following table shows the legal actions begun during the year and their disposition:

INSPECTION No.	Place where sample was purchased.	Article.	Date of complaint.	Result of trial.	Disposition of case.
C 288...	Atlantic City	Butter.	April 7, '02.	Conviction	Appealed.
C 582...	Atlantic City	Tinct. Opium	June 12, '02.	Conviction	Fine paid.
C 797...	Atlantic City	Milk	Sept. 11, '02.	Conviction	Fine paid.
C 802...	Atlantic City	Milk	Sept. 11, '02.	Conviction	Fine paid.
C 804...	Atlantic City	Milk	Sept. 11, '02.	Conviction	Fine paid.
C 808...	Atlantic City	Milk	Sept. 11, '02.	Conviction	Fine paid.
C 812...	Atlantic City	Milk	Sept. 11, '02.	Conviction	Fine paid.
C 813...	Atlantic City	Milk	Sept. 11, '02.	Conviction	Fine paid.
C 814...	Atlantic City	Milk	Sept. 11, '02.	Conviction	Fine paid.
D 767...	Asbury Park.	Milk	August 16, '02.	Conviction	Fine paid.
B 555...	Asbury Park.	Butter	Sept. 13, '02.	Acquitted.	Appealed.
D 869...	Asbury Park.	Milk	August 28, '02.	Conviction	Fine paid.
B 222...	Bayonne	Butter	March 13, '02.	Conviction	Appealed.
B 228...	Bayonne	Butter	March 13, '02.	Conviction	Appealed.
B 225...	Bayonne	Butter	March 13, '02.	Conviction	Appealed.
C 197...	Blackwood.	Milk	Feb. 5, '02.	Conviction	Fine paid.
A 829...	Blairtown.	Milk	June 15, '02.	Conviction	
C 785...	Bridgeport.	Ol. swt. almonds.	July 28, '02.	Conviction	Fine paid.
C 689...	Burlington.	Ol. swt. almonds.	July 24, '02.	Conviction	Fine paid.
11 931...	Camden	Butter	Nov. 20, '01.	Conviction	Fine paid.
11 932...	Camden	Butter	Dec. 30, '01.	Conviction	Fine paid.
C 185...	Camden	Butter	Jan. 13, '02.	Conviction	Fine paid.
C 187...	Camden	Butter	June 4, '02.	Conviction	Appealed.
C 221...	Camden	Butter	Jan. 1, '02.	Conviction	Dodson.
C 263...	Camden	Milk	March 19, '02.	Conviction	Fine paid.
C 265...	Camden	Butter	March 19, '02.	Conviction	Fine paid.
C 299...	Camden	Butter	March 31, '02.	Conviction	Appealed.
C 305...	Camden	Butter	March 31, '02.	Conviction	Appealed.
C 348...	Camden	Butter	April 2, '02.	Conviction	
C 349...	Camden	Butter	April 2, '02.	Conviction	Fine paid.
C 354...	Camden	Butter	April 5, '02.	Conviction	
C 516...	Camden	Aq. dist.	May 23, '02.	Conviction	Fine paid.
C 518...	Camden	Aq. dist.	May 23, '02.	Conviction	Fine paid.
C 410...	Camden	Milk	May 5, '02.	Conviction	
C 519...	Camden	Tinct. opium	June 9, '02.	Conviction	Fine paid.
C 522...	Camden	Tinct. iodine	June 9, '02.	Plea of guilty	Fine paid.
C 532...	Camden	Aq. dist.	June 9, '02.	Conviction	Fine paid.
C 549...	Camden	Butter	June 21, '02.	Acquitted.	
C 590...	Camden	Butter	June 21, '02.	Conviction	Fine paid.
C 815...	Camden	Milk	August 28, '02.	Conviction	Fine paid.
C 818...	Camden	Milk	August 28, '02.	Conviction	Fine paid.
C 820...	Camden	Milk	August 28, '02.	Conviction	Fine paid.
C 838...	Camden	Milk	Oct. 2, '02.		Pending.
C 861...	Camden	Cider vinegar.	Oct. 18, '02.		Pending.
C 874...	Camden	Milk	Oct. 18, '02.		Pending.
C 885...	Camden	Cider vinegar.	Oct. 18, '02.		Pending.
C 865...	Camden	Olive oil.	Oct. 18, '02.		Pending.
C 871...	Camden	Ol. swt. almonds.	Oct. 8, '02.	Acquitted.	Appealed.
C 867...	Camden	Tinct. iodine	Oct. 18, '02.		Pending.
B 769...	Caldwell.	Milk	Oct. 4, '02.		Pending.
B 136...	Elizabeth	Milk	Feb. 3, '02.	Conviction	Fine paid.
B 138...	Elizabeth	Milk	Feb. 3, '02.	Conviction	Fine paid.
B 145...	Elizabeth	Butter	Feb. 1, '02.	Conviction	Fine paid.
B 276...	Elizabeth	Butter	May 1, '02.	Decl'n reserv'd.	
B 280...	Elizabeth	Butter	May 1, '02.		
B 421...	Elizabeth	Aq. dist.	July 8, '02.	Acquitted.	
B 631...	Elizabeth	Milk	August 13, '02.	Conviction	Fine paid.
D 895...	Flemington.	Milk	Sept. 10, '02.	Acquitted.	
A 493...	Garfield.	Milk	August 5, '02.	Conviction	Fine paid.
A 495...	Garfield.	Milk	August 5, '02.	Conviction	Fine paid.
A 186...	Glenview	Milk	March 3, '02.	Conviction	Fine paid.
A 187...	Glenview	Milk	March 8, '02.	Conviction	Fine paid.
11 945...	Greenlock.	Milk	Dec. 6, '01.	Conviction	Fine paid.
A 348...	Guttenberg.	Butter	May 21, '02.	Conviction	Appealed.
A 175...	Hackensack.	Butter	Feb. 24, '02.	Conviction	Appealed.
A 176...	Hackensack.	Butter	Feb. 24, '02.	Conviction	
A 177...	Hackensack.	Butter	Feb. 24, '02.	Conviction	
C 604...	Hoboken	Milk	May 26, '02.	Conviction	Fine paid.
B 848...	Hoboken	Milk	Oct. 16, '02.		Pending.

INSPECTION NO.	Place where sample was purchased.	Article.	Date of complaint.	Result of trial.	Disposition of case.
D 145..	Hopewell.....	Milk.....	April 10, '02...	Conviction.....	Fine paid.
D 149..	Hopewell.....	Milk.....	April 10, '02...	Conviction.....	Fine paid.
B 184..	Jersey City.....	Milk.....	March 24, '02...	Acquitted.....	
B 163..	Jersey City.....	Butter.....	Jan. 31, '02...	Conviction.....	Fine paid.
B 164..	Jersey City.....	Butter.....	March 10, '02...	Conviction.....	Appealed.
B 214..	Jersey City.....	Butter.....	March 10, '02...	Conviction.....	Appealed.
B 400..	Jersey City.....	Tinct. iodine.....	June 10, '02...	Acquitted.....	
B 426..	Jersey City.....	Milk.....	June 15, '02...	Acquitted.....	
B 481..	Jersey City.....	Milk.....	June 15, '02...	Conviction.....	Fine paid.
B 446..	Jersey City.....	Milk.....	Sept. 10, '02...	Conviction.....	Fine paid.
B 693..	Jersey City.....	Tinct. opium.....	Sept. 10, '02...	Conviction.....	Pending.
A 145..	Lake View.....	Butter.....	Feb. 24, '02...	Discontinued.....	
B 502..	Long Branch.....	Aq. dist.....	June 23, '02...	Acquitted.....	Appealed.
B 508..	Long Branch.....	Tinct. opium.....	June 23, '02...	Conviction.....	Fine paid.
B 518..	Long Branch.....	Aq. dist.....	June 23, '02...	Conviction.....	Fine paid.
D 746..	Long Branch.....	Milk.....	August 15, '02...	Conviction.....	
D 750..	Long Branch.....	Milk.....	August 15, '02...	Conviction.....	
D 978..	Long Branch.....	Tinct. opium.....	Sept. 19, '02...	Conviction.....	Pending.
D 762..	Long Branch.....	Milk.....	August 15, '02...	Conviction.....	Appealed.
D 877..	Long Branch.....	Milk.....	Sept. 8, '02...	Conviction.....	Appeal.
B 439..	Lorraine.....	Milk.....	July 8, '02...	Conviction.....	Appeal.
C 290..	Mantua.....	Tinct. opium.....	August 6, '02...	Conviction.....	Fine paid.
C 299..	Merchantville.....	Butter.....	March 31, '02...	Conviction.....	Appeal.
C 553..	Merchantville.....	Butter.....	June 21, '02...	Conviction.....	Appeal.
C 908..	Mount Ephraim.....	Milk.....	Oct. 13, '02...	Conviction.....	Pending.
B 714..	Newark.....	Cr. Tartar.....	Oct. 23, '02...	Conviction.....	Pending.
B 719..	Newark.....	Cider vinegar.....	Oct. 23, '02...	Conviction.....	Pending.
B 749..	Newark.....	Olive oil.....	Oct. 23, '02...	Conviction.....	Pending.
B 740..	Newark.....	Ol. swt. almonds.....	Oct. 15, '02...	Conviction.....	Pending.
D 273..	New Brunswick.....	Butter.....	Jan. 17, '02...	Acquitted.....	
C 722..	Ocean City.....	Ol. swt. almonds.....	July 8, '02...	Conviction.....	Fine paid.
C 794..	Ocean City.....	Butter.....	Sept. 13, '02...	Conviction.....	
11,704..	Orange.....	Butter.....	Dec. 13, '01...	Conviction.....	
11,708..	Orange.....	Butter.....	Dec. 27, '01...	Conviction.....	Fine paid.
B 684..	Orange.....	Milk.....	Sept. 8, '02...	Conviction.....	Pending.
A 811..	Fassale.....	Olive oil.....	Oct. 23, '02...	Conviction.....	Pending.
A 814..	Fassale.....	Cocoa.....	Oct. 23, '02...	Conviction.....	Pending.
A 686..	Fassale.....	Milk.....	Sept. 12, '02...	Conviction.....	Fine paid.
11,897..	Fassale.....	Milk.....	Jan. 2, '02...	Conviction.....	Fine paid.
11,933..	Fassale.....	Butter.....	Jan. 9, '02...	Conviction.....	Fine paid.
A 832..	Pappacating.....	Milk.....	June 6, '02...	Discontinued.....	
A 624..	Paterson.....	Milk.....	Dec. 13, '01...	Conviction.....	Fine paid.
11,873..	Paterson.....	Butter.....	Dec. 21, '01...	Conviction.....	Fine paid.
11,878..	Paterson.....	Butter.....	Jan. 9, '02...	Conviction.....	Fine paid.
11,876..	Paterson.....	Butter.....	Dec. 19, '01...	Conviction.....	Fine paid.
11,874..	Paterson.....	Butter.....	Dec. 21, '01...	Conviction.....	Fine paid.
A 147..	Paterson.....	Milk.....	Feb. 20, '02...	Conviction.....	Fine paid.
A 615..	Paterson.....	Milk.....	Oct. 1, '02...	Conviction.....	Fine paid.
A 683..	Paterson.....	Tinct. iodine.....	Oct. 16, '02...	Def't absconded.....	Pending.
A 696..	Paterson.....	Milk.....	Oct. 16, '02...	Conviction.....	Fine paid.
A 711..	Paterson.....	Milk.....	Oct. 16, '02...	Conviction.....	Fine paid.
A 829..	Paterson.....	Olive oil.....	Oct. 16, '02...	Conviction.....	Pending.
11,867..	Paterson.....	Milk.....	Dec. 5, '02...	Conviction.....	Fine paid.
D 350..	Perth Amboy.....	Butter.....	Feb. 20, '02...	Nonsuit.....	
D 505..	Perth Amboy.....	Milk.....	April 16, '02...	Conviction.....	
D 504..	Perth Amboy.....	Milk.....	April 16, '02...	Conviction.....	Fine paid.
D 534..	Perth Amboy.....	Milk.....	April 25, '02...	Conviction.....	
D 565..	Perth Amboy.....	Milk.....	June 5, '02...	Conviction.....	
D 594..	Perth Amboy.....	Aq. dist.....	May 26, '02...	Nonsuit.....	
D 555..	Perth Amboy.....	Butter.....	Feb. 20, '02...	Conviction.....	Appeal.
D 536..	Perth Amboy.....	Butter.....	Feb. 20, '02...	Conviction.....	Appeal.
D 585..	Perth Amboy.....	Butter.....	March 5, '02...	Nonsuit.....	
D 583..	Perth Amboy.....	Milk.....	April 24, '02...	Conviction.....	Fine paid.
A 550..	Phillipsburg.....	Milk.....	August 11, '02...	Conviction.....	Paid fine.
A 551..	Phillipsburg.....	Milk.....	August 11, '02...	Conviction.....	Paid fine.
D 884..	Plainfield.....	Milk.....	Sept. 1, '02...	Conviction.....	Paid fine.
D 886..	Plainfield.....	Milk.....	Sept. 1, '02...	Conviction.....	Paid fine.
D 967..	Plainfield.....	Milk.....	Sept. 17, '02...	Conviction.....	Paid fine.
D 826..	Plainfield.....	Milk.....	Sept. 1, '02...	Conviction.....	Paid fine.

INSPECTION No.	Place where sample was purchased.	Article.	Date of complaint.	Result of trial	Disposition of case.
D 839...	Plainfield.....	Ol. swt. almonds...	Sept. 7, '02...	Conviction.....	Paid fine.
D 952...	Plainfield.....	Milk.....	Sept. 17, '02...	Conviction.....	Paid fine.
D 829...	Plainfield.....	Milk.....	Sept. 1, '02...	Conviction.....	Appealed.
D 876...	Plainfield.....	Butter.....	Feb. 28, '02...	Conviction.....	Appealed.
D 877...	Plainfield.....	Butter.....	Feb. 28, '02...	Conviction.....	Appealed.
D 896...	Plainfield.....	Butter.....	March 6, '02...	Conviction.....	Appealed.
D 398...	Plainfield.....	Butter.....	March 6, '02...	Conviction.....	Appealed.
D 269...	Princeton.....	Aq. dist.....	June 10, '02...	Conviction.....	
D 268...	Princeton.....	Aq. dist.....	June 10, '02...	Conviction.....	
G 109...	Rahway.....	Butter.....	Jan. 16, '02...	Nonsuit.....	
G 103...	Rahway.....	Butter.....	Feb. 1, '02...	Conviction.....	{ Defendant absconded.
B 667...	Rahway.....	Tinct. iodine.....	Sept. 6, '02...	Conviction.....	Fine paid.
B 306...	Rahway.....	Butter.....	May 1, '02...		Pending.
C 679...	Riverton.....	Ol. swt. almonds...	July 24, '02...	Conviction.....	Fine paid.
D 607...	Three Bridges.....	Milk.....	June 8, '02...	Nonsuit.....	
D 230...	Trenton.....	Milk.....	Jan. 16, '02...	Conviction.....	Fine paid.
D 662...	Trenton.....	Tinct. iodine.....	June 21, '02...	Plea of guilty.....	Fine paid.
D 891...	Trenton.....	Milk.....	Sept. 9, '02...	Dismissed.....	
D 936...	Trenton.....	Milk.....	Sept. 12, '02...	Conviction.....	
D 776...	Trenton.....	Milk.....	August 19, '02...	Plea of guilty.....	Fine paid.
B 659...	Union Hill.....	Milk.....	Sept. 15, '02...		Pending.
D 678...	White House.....	Milk.....	June 8, '02...	Nonsuit.....	

The following suits were instituted, in addition to the above, under the Food and Drug law :

CAUSE.	Place.	Date.	Result.	Remarks.
For interfering with an Inspector in the discharge of duty.....	Bridgeton.....	July 31...	Acquitted.....	Appealed.
For keeping cows in a crowded or unhealthy condition, and feeding the same on swill.....	Secaucus.....	April 10...	Convicted.....	Paid fine.
For keeping cows in a crowded or unhealthy condition, and feeding the same on swill.....	Secaucus.....	April 10...	Plea of guilty...	
For keeping cows in a crowded or unhealthy condition.....	Jersey City.....	May 29...	Acquitted.....	
Keeping cows in a crowded or unhealthy condition.....	North Bergen...	May 29...	Acquitted ..	
Keeping cows in a crowded or unhealthy condition.....	North Bergen...	May 29...	Pending.....	

SUMMARY.

Number samples collected during the year.....	3,258
“ complaints entered in the courts.....	166
“ of complaints entered for adulteration of milk.....	73
“ “ “ “ “ “ “ “ drugs	32
“ “ “ “ “ “ “ “ food, not milk and butter	50
“ “ “ “ “ “ “ “ keeping of cows in a crowded or un- healthy condition	5
Resisting officer in discharge of his duties.....	1

The examination of twenty-six samples of linseed oil showed them to be free from adulteration. Five samples of well-known brands of mineral water proved to be as represented. One sample of candy (supposed to have caused the sickness of two children) was found to contain eosin, a so-called harmless dye, apparently used in excess.

DRUGS.

Three hundred and eighty-seven samples of drugs have been examined during the year, and two hundred and forty, or about 62 per cent., of these did not conform to the standard fixed by the United States Pharmacopœia. A few showed slight variation, but the most fell far below requirements, indicating gross carelessness in their preparation. This is the more reprehensible because the samples selected for analyses were those which every druggist himself compounds. In the examination of drugs, purchased in bulk by retailers, oil of sweet almonds and olive oil were found to be most subject to sophistication. There can be no valid excuse for this, since, by the application of a very simple test, any apothecary's apprentice can determine their purity. Following is a list of the drugs sent to the laboratory, together with a statement showing the results of the examinations: *Acidium aceticum*—Three samples were examined, two of which contained 36 per cent. of absolute acetic acid, as required by the Pharmacopœia and one sample but 31 per cent. *Acidium tartaricum*—Of the three samples examined, all proved to be of the standard quality. *Alcohol*—Only one sample was examined, and this contained too much water. *Aqua ammonia*—One sample examined proved to

be below the required standard. Aqua dist.—Fifty-six samples were examined, forty-two of which did not conform to the standard of the Pharmacopœia. Most of these (45) samples gave pronounced tests for chlorides, sulphates and carbonates, and several contained residues in excess of those found in most ordinary tap waters, showing gross carelessness on the part of the druggists who dispensed them. Cold cream—Four samples were examined, three of which conformed to the required standard, and in one, cottonseed oil was substituted for oil sweet almonds. Chloride of lime—Six samples were examined and found to be below the required standard. Chloroform—Six samples were examined and found to be standard. Ether—Fourteen samples were examined, nine of which were standard. Citrate of iron and quinine—Five of the seven samples examined varied from the standard. Citrate of iron and strychnia—The two samples examined contained a small excess of iron and strychnia. Valerinate of iron—The one sample examined was equal to standard. Glycerine—The seven samples examined showed no arsenic, but the fatty acids and carbonizable matter in all of them indicated carelessness in their manufacture. Lime water—Two of the four samples examined were standard. Lead water—Three of the four samples examined were of standard strength. Tincture nux vomica—Seven samples were examined; four proved to be of standard strength and three a trifle below the required weight of alkaloids. Liquor potassa—Four samples were examined; one proved equal to standard. Fowler's solution—All of the five samples examined were found to be deficient in arsenic. Liquor soda—One sample examined was of standard strength. Oil sweet almonds—Twenty samples examined, fourteen of which were either adulterated with the oils—peach kernel and cottonseed—or entirely substituted by them. Oil wintergreen—The one sample examined proved to be an artificial oil instead of the natural oil of wintergreen. Olive oil—Five of the twelve samples examined were adulterated with sesame or cottonseed oil. Sulphate of quinine—The one sample examined was of the required standard. Quinine pills—Thirteen samples were examined, ten of which were found to be deficient in quinine. Hoffman's anodyne—The one sample examined was of standard quality. Sweet spts. of nitre—The single sample examined was of standard quality. Tincture of iron—Of the thirty-eight samples examined, twenty-

nine were of standard strength. Tincture of iodine—Eighty-five samples were examined, seventy-six of which did not comply with the Pharmacopœial standard, varying from .6 gr. to 10.1 grs. of iodine per 100 cc. The required standard is 7 grs. per 100 cc. In several instances methyl alcohol was used as a solvent in place of ethylic alcohol. The investigation shows gross carelessness in the preparation of this simple article. Cream tartar—Seventeen samples were examined, sixteen of which were of standard quality. Tincture of opium—Fifty-eight samples were examined, forty-three of which proved to be of inferior strength. The morphine requirements varied from .31 gr. per 100 cc. to 1.59 grs. per 100 cc. These samples were all purchased on a physician's prescription. Paregoric—The one sample examined was of the proper strength. Phenacetin—The two samples examined were up to standard. Aqua ammonia fort.—The one sample examined was below standard.

Respectfully submitted,

GEO. W. McGUIRE,

Chief Inspector of Food and Drugs.

Trenton, October 31st, 1902.

Small-Pox in New Jersey.

BY A. C. HUNT, M.D., STATE SANITARY INSPECTOR.

The following is a summary of the cases of small-pox which have occurred in New Jersey from June 30th, 1897, to October 31st, 1902: From June 30th, 1897, to June 30th, 1898, 7 cases were reported. From June 30th, 1898, to October 31st, 1898, no cases were reported in the State. From October 31st, 1898, to December 31st, 1899, 87 cases were reported. From December 31st, 1899, to December 31st, 1900, 95 cases were reported. From December 31st, 1900, to December 31st, 1901, 1,139 cases were reported, and from December 31st, 1901, to October 31st, 1902, 2,366 cases were reported. Not including the 7 cases reported from June 30th, 1897, to June 30th, 1898, the total number of cases which have been reported is 3,687. The period covered by the epidemic up to the present time is of four years' duration. In the first two years 182 cases were reported. During the last two years 3,505 were reported. The greatest number of cases reported in any four weeks of the period ending October 31st, 1902, was 466. In the week ending January 11th, 1902, 122 cases were reported, which was the largest number reported in any one week. From the month of May, 1902, to the end of September, 1902, the number of cases reported diminished very rapidly, and for the week ending September 27th, 1902, no cases whatever were reported. It will be noticed that from December 31st, 1900, to October 31st, 1902, 3,505 cases have been reported, and this, for the period covering twenty-two months, shows that the average number of cases occurring monthly was 159. Following is a detailed report of cases of small-pox which have occurred in various localities of the State from December 31st, 1901, to October 31st, 1902:

Allamuchy Township.—Two cases of small-pox occurred in this township. The origin of the disease was traced to direct exposure in Hacketts-town. There is no isolation hospital in this sanitary district and therefore domestic quarantine was necessary.

Asbury Park.—But one case of small-pox occurred in Asbury Park in the period extending from January 1st, 1902, to October 31st, 1902. This case was traced to exposure in Newark. A complete isolation hospital is furnished for the reception and care of all small-pox patients.

Atlantic City.—Twelve cases of small-pox occurred in Atlantic City from January 1st to October 31st, 1902. The first case was reported in February, and the origin of the disease was traced to infection in Philadelphia. In the second case, which occurred March 23d, the patient is supposed to have contracted the disease in Washington D. C. On June 4th a case occurred at one of the pavilions, and its origin was traced to exposure to the disease in Philadelphia. From June 13th to November 13th, 1902, nine cases were reported. In each instance the patient was colored, and the origin of the disease was traced to exposure at Philadelphia or at points in the South. The city is well equipped with an isolation hospital, and in every case the patient was removed to the hospital and kept under quarantine until fully convalescent. Not one of the patients having the disease died.

Bayonne.—The monthly record of cases of small-pox which occurred in Bayonne from January 1st to October 31st, 1902, is as follows: January, 12; February, 4; March, 5; April, 1; May, 2; July, 6; August, 1; September, 1—Total, 32.

Beverly.—One case of small-pox was reported. A physician who was attending a case of small-pox in Palmyra contracted the disease. The city is not provided with an isolation hospital.

Bordentown.—One case of small-pox occurred in Bordentown. There is no isolation hospital and it was necessary to send the patient to Trenton.

Bridgewater Township.—Three cases of small-pox occurred in this township. The disease is supposed to have been contracted from a visitor coming from New York or Brooklyn. The cases were confined to one house and family and were reported to the board of health on June 14th, 20th and 26th. There is no isolation hospital in the township.

Burlington City.—One case of small-pox was reported in this city. The origin of the disease was traced to exposure at Bristol, Pa. There is no isolation hospital in this sanitary district.

Byram Township.—One case of small-pox occurred in this township. As there is no isolation hospital in the district local quarantine was instituted.

Caldwell Township.—Five cases of small-pox occurred in this township. The origin of the first case was traced to exposure in Orange, New Jersey, and the second case was contracted from the first. The third case came from Roseville, near Newark, New Jersey, and the fourth and fifth cases were due to exposure to the third case. There is no isolation hospital in the township, and therefore the patients were quarantined at their own homes.

Camden City.—From January 1st to October 31st, 1902, 134 cases of small-pox occurred in this city. The origin of a number of the cases was traced to Philadelphia. Ample provision was made for the care of small-pox cases in a hospital which was built for this purpose.

Carlstadt.—One case of small-pox occurred in this borough. There is

no isolation hospital in the borough, but cases are removed to the Hudson county isolation hospital at Snake Hill.

Centre Township.—One case of small-pox occurred in this township, and the origin of the disease was not directly traced, but it is supposed that it was contracted in Camden. There is no isolation hospital in this sanitary district.

Cliffside Park.—Five cases of small-pox occurred in this borough. The origin of the disease was traced to a person coming from the city. There is no isolation hospital in this district.

Collingswood.—Eight cases of small-pox occurred in Collingswood. The original cases were traced to exposure in Philadelphia and other cities. The local board of health hired an unoccupied house, and the first three patients were sent to this temporary hospital. Four of the cases were sent to Camden and two of the cases were cared for at their homes. An arrangement had been made that in case of any serious extension of the disease a hospital was to be built by two or three adjacent sanitary districts so as to lessen the expense.

Cranford Township.—One case of small-pox was reported in this township. A temporary hospital was erected and a trained nurse was placed in charge of the cases. The origin of the infection was traced to exposure in Newark.

Cresskill.—Five cases of small-pox occurred in this borough from January 1st to October 31st, 1902. All of the cases were in one family, and the origin of the outbreak was traced to direct exposure.

Delaware Township, Camden County.—Five cases of small-pox occurred in this township. Four of the cases were in one house. The origin of the disease was traced to exposure in Philadelphia. Strict quarantine of the infected premises was continued until the cases had recovered and free vaccination was practiced.

Dover.—Six cases of small-pox occurred in Dover. All of the cases were due to exposure of the original cases in Newark. But two families were affected. The city is not provided with an isolation hospital.

East Amwell Township.—Four cases of small-pox occurred in this locality. The first case was contracted in Philadelphia and the three remaining cases were contracted by exposure. There is no isolation hospital in the township for the care of small-pox patients.

Eastampton Township.—One case of small-pox was reported in this township on February 20th, 1902. The origin of the infection was not traced. There is no isolation hospital in this district and therefore domestic quarantine is resorted to.

East Newark.—The following is a list of the number of cases of small-pox which occurred in East Newark from January 1st to October 31st, 1902: May, 3; July, 6—Total, 9.

East Orange.—The total number of cases of small-pox which occurred in East Orange from January 1st to October 31st, 1902, was thirty-one. As far as the investigation showed, four of the cases were contracted from exposures in Newark, one from Elizabeth and four from New York City. The other cases were due to direct exposure. A complete isolation hospital for the accommodation of small-pox patients has been erected, and in every instance where the disease occurs the patient is removed to the hospital.

East Rutherford.—One case of small-pox occurred in this borough. The source of the infection was not traced. Cases of small-pox in this district were removed to the isolation hospital at Snake Hill.

Elizabeth.—Forty-six cases of small-pox occurred in this city from January 1st, 1902, to October 31st, 1902. Twenty-eight of these were reported from out of town and eighteen cases were traceable to direct infection. In no case was the infection carried from one house to another. There is an isolation hospital provided for the care of patients, and no cases have been reported in the city since September 9th, 1902.

Englewood.—One case of small-pox occurred in this city, and the disease was undoubtedly contracted in Norfolk, Virginia. A temporary isolation hospital was erected, and after the patient was removed the hospital was destroyed by fire.

Fanwood Township.—Two cases of small-pox occurred in this township from January 1st to October 31st, 1902. The first case which was reported came from Dunellen, and a nurse attending this person contracted the disease in a mild form. The local board of health rented a small house, in which the cases were cared for.

Glen Ridge.—Two cases of small-pox were reported in this borough. No definite information was obtained as to where the disease was contracted. Both cases occurred in one family. There is no isolation hospital in this sanitary district.

Hackensack.—Eight cases of small-pox were reported in this city from January 1st to October 31st, 1902. The source of infection in every instance was traced to exposure in localities where the disease existed. The cases were removed to an annex of the general hospital.

Hackettstown.—On the 2d day of January, 1902, two cases of small-pox were reported in Hackettstown, and within a few days over forty cases were under the care of the local board of health. The infection was traced to exposures to one individual. This person was examined by a physician and a diagnosis of chicken-pox was made. He attended a public entertainment and frequented the streets and stores of the town. The local board of health immediately entered into arrangements for the construction of hospitals, and before the epidemic was over 123 cases occurred within the town limits. A number of the cases were undoubtedly due to the neglect of the use of vaccination as a preventive measure. Before the epidemic ceased a thorough vaccination census of the town was made, and only a very few persons remained that had not been vaccinated. The supervision of this department of the work was placed in the hands of Dr. Cook, and a very full report of the epidemic and of the action taken has been sent to this office by him. The report is of such a length that it is impossible to print it in full, although, as a matter of record, it is of great interest and value. In no place in the State of New Jersey were there more cases of small-pox in proportion to the population, and the epidemic in this town showed conclusively the satisfactory results of thorough vaccination of all of the inhabitants of a city. No cases were reported after the thorough vaccination of the citizens of the town. The cost to the town for the care of the cases and other necessary expenditures was over \$12,000.

Hawthorne.—One case of small-pox occurred in this borough from January 1st to October 31st, 1902. The origin of the disease was untraced. There is no isolation hospital in this borough.

Harrington Township.—One case of small-pox occurred in this township. The origin of the disease was traced to exposure by attendance upon the funeral of a person who died with small-pox. The house in which the disease occurred was quarantined, and all the persons that had been exposed were vaccinated.

Hoboken.—The monthly record of cases of small-pox which occurred in Hoboken from January 1st to October 31st, 1902, is as follows: January, 10; February, 7; March, 13; April, 14; May, 11; June, 6; July, 6; August, 2; September, 2—Total, 71.

Harrison.—The following is a list of the number of cases of small-pox which occurred in Harrison from January 1st to October 31st, 1902: January, 3; February, 3; March, 4; April, 4; June, 7; July, 2; August, 1—Total, 25.

Irvington.—Eleven cases of small-pox occurred in Irvington. It is supposed that the cases were brought to the town from Newark, as the first case appeared in the person of a milkman who served milk in Newark. There is no isolation hospital in the town.

Jersey City.—The monthly record of cases of small-pox which occurred in Jersey City from January 1st to October 31st, 1902, is as follows: January, 69; February, 78; March, 160; April, 117; May, 124; June, 83; July, 41; August, 3; October, 1—Total, 676.

Junction.—One case of small-pox occurred in this borough on January 15th, 1902. A number of men were brought to Junction by the Central Railroad Company, and in that way a colored man came from Jersey City. This man broke out with the disease, and immediately every man who had been exposed to the disease was vaccinated. A temporary isolation hospital was erected and the patient at once removed to it. No further cases were reported.

Kearny.—From January 1st to October 31st, 1902, thirty-two cases of small-pox were reported. It was impossible to trace in many instances the source of infection. All cases were removed to the isolation hospital at Snake Hill.

Lacey Township.—From January 1st to October 31st, 1902, several cases of small-pox occurred in this township, but a diagnosis of the disease was not made until the patients had almost entirely recovered. As far as could be learned there had been some seven cases having the characteristic symptoms of the disease.

Little Ferry.—Four cases of small-pox occurred in the borough of Little Ferry. The first one reported was on May 25th, 1902, and following this one three other cases occurred in the same family. It is supposed that the first case was contracted in Hackensack. There is no isolation hospital in the district.

Long Branch.—One case of small-pox occurred in this city. The infection was traced to exposure at Mount Vernon, New York. The patient was removed to the isolation hospital. The hospital is complete and quite satisfactory.

Madison.—One case of small-pox occurred in this borough. The disease was in all probability contracted in either Morristown or Newark. There is no isolation hospital in this district.

Mantua Township.—Five cases of small-pox were reported in this township. The disease was contracted in Philadelphia. There is no isolation hospital in Mantua township, but a hospital has recently been erected for the reception of small-pox patients on the Gloucester county poor farm.

Millburn Township.—Seven cases of small-pox occurred in this township from January 1st to October 31st, 1902. All of the cases are supposed to have been contracted in Newark, New Jersey. An isolation hospital has been provided for the care of small-pox patients, and it is located on the township farm.

Montclair.—Eight cases of small-pox occurred in this city. In each instance the cases were removed to the isolation hospital.

Montgomery Township.—One case was reported in this district, and the patient died. The disease was undoubtedly contracted in Princeton, as the person who contracted the disease delivered milk to a family that had recently come from Newark. There is no isolation hospital in this district.

Morristown.—From January 1st to October 31st, 1902, seventeen cases of small-pox occurred in this city. Fourteen cases were reported in All Souls' hospital, and the infection is supposed to have been caused by clothing which had been forwarded to the hospital. Two cases were traced to infection in Newark, and one of the cases was sent in from an outside district. In every case the patient was removed to the Memorial isolation hospital for treatment.

Mount Holly.—Two cases of small-pox occurred in Mount Holly, and the history of the cases showed that the patients had been exposed to the disease in the Burlington county prison. There is no isolation hospital in Mount Holly.

Newark.—The epidemic which had existed during the year 1901 in this city continued until October, 1902. The following is the number of cases which were reported from January, 1902, to October 31st, 1902: January, 157; February, 107; March, 100; April, 150; May, 208; June, 102; July, 34; August, 19; September, 17; October, 3, making a total of 897 cases in ten months, accompanied by 192 deaths.

North Bergen Township.—The following is a list of the number of cases of small-pox which occurred in North Bergen township from January 1st to October 31st, 1902: January, 2; April, 1; June, 1—Total, 4.

North Brunswick Township.—Two cases of small-pox were reported in this township. Both of the cases were imported from Pittsburg, Pa. The persons affected with the disease were working for a contractor in the construction of the Trenton and New Brunswick traction road. One of the cases was removed to the isolation hospital in New Brunswick and the other case was quarantined in the camp.

Orange.—Sixty-five cases of small-pox occurred in this city from January 1st to October 31st, 1902. All of the cases were removed to the isolation hospital, and plans are under consideration for the erection of a permanent hospital.

Passaic.—Eleven cases of small-pox have been reported in this city. Two of the cases were traceable directly to Paterson. An isolation hospital is provided for the care of small-pox patients, and whenever a case occurs the patient is at once removed to the hospital.

Phillipsburg.—Two cases of small-pox occurred in this city. One of the cases was traced to exposure in Orange or Newark, and the second case was traced to direct exposure.

Piscataway Township.—Four cases of small-pox have occurred in this township. Two houses were infected. Two of the cases occurred in a public house, and it is supposed that the disease was contracted from some person stopping at the hotel. The other two cases were brought from the city of Newark. One of the above cases was fatal. There is no isolation hospital in the district.

Plainfield.—The following is a report from L. R. Thurlow, health officer of Plainfield, in reference to the cases of small-pox which have occurred in that city:

"Your communication of the 21st inst. has been received. Following are the answers to the three questions:

"1. Fourteen cases of small-pox were reported in Plainfield from January 1st to October 31st, 1902.

"2. The above fourteen cases were derived from four different sources—
(a) On January 1st a machinist came from East Orange to board in a family of the name of Campbell, in Plainfield. After a few days' work in Plainfield this machinist returned to East Orange with a sickness that was undoubtedly varioloid. Two weeks later Mr. Campbell and his two sons came down with small-pox. The following day a young woman, a near neighbor of the Campbells, was taken to our hospital with small-pox. By thorough vaccination and disinfection any further spread of the disease from this source was checked. (b) On February 20th a traveling iron moulder came from Newark, where he had been ejected from a cheap lodging house because of small-pox breaking out among the lodgers. He immediately visited, and for the next few days spent the most of his time in, a saloon in New Market, Piscataway township, just over the Plainfield line. On the 26th he was removed to our hospital and the following day died from the effects of variola. About two weeks later the owner of the saloon and his son were taken with small-pox. In the meantime a man by the name of Crowley was constantly visiting the saloon. He was taken sick, but no physician was called. The man, according to his wife's story, had an eruption on his face and hands, but recovered shortly. On April 20th small-pox was reported in the Crowley family, and within a few days six members of the family, in fact, all except Crowley himself were at the Hospital with more or less severe cases of small-pox. We were able to prevent any spread from the above source. (c) On April 5th a colored woman came from one of the infected districts in Newark to Plainfield, spent the night at the home of a colored man by name of Potts and the following day visited her grandfather, with whom she remained a few days. About two weeks later both Potts and the grandfather were taken with small-pox. No further cases, however, developed, although several persons were exposed. (d) About the middle of August a colored man who had worked for an N. J. contractor, and was in Newark and other infected cities in N. J., visited Plainfield and for one week slept with his brother. At the time a rash broke out on the man's face, hands and body, but lasted only a few days; no physician was called. Two weeks later his brother was removed to the hospital with a case of confluent small-pox. Though many persons were exposed, we were able to prevent any spread of the disease.

"3. When small-pox became prevalent in the cities and towns about Plainfield, we obtained from the city the use of a large, well-built farmhouse of fourteen rooms, situated in the extreme southwestern part of the city, to be used as an isolation hospital. We had the whole place thoroughly cleaned, the paper scraped from the walls and everything white-washed, a new well driven, a heating apparatus of sufficient capacity to heat the entire building in the coldest weather installed, and everything put in readiness to receive small-pox patients. The total capacity of the hospital is eighteen patients, but in extreme cases this could be increased to twenty-five or thirty."

Princeton.—Eighteen cases of small-pox occurred in the borough of Princeton. The origin of the disease was traced to parties coming from Newark. An isolation hospital was built for the reception and care of cases of small-pox.

Prospect Park.—Three cases of small-pox occurred in this borough. One case was traced to exposure in Paterson, and the origin of the other cases was not discovered. No isolation hospital has been provided for this borough.

Randolph Township.—Eleven cases of small-pox occurred in this township. Nine of these were reported from Mine Hill, one from Millbrook and one from Shongum. As far as could be learned the cases at Mine Hill were caused by a young man who had returned home after attending business college in Newark. The case at Shongum was in the person of a young lady who had recently come from Brooklyn. There was no method of determining the origin of the case which occurred at Millbrook. There is no isolation hospital in the township.

Raritan Township, Middlesex County.—Two cases of small-pox occurred in this township. One of the cases was without doubt contracted in Newark, and the other either in Newark or Jersey City. There is no isolation hospital in the township.

Red Bank.—Three cases of small-pox occurred in Red Bank. The first case came from Philadelphia and the other two cases were traced to direct exposure to the first case. There is an isolation hospital in the town for the care of all cases of small-pox.

Riverside.—One case of small-pox occurred in this borough in January, 1902. The parents of the child which was affected had been visiting at Camden, and the child developed the disease soon after their return to Riverside. There is no isolation hospital in this sanitary district, and therefore domestic quarantine was necessary. There is an isolation hospital on the tri-township almshouse farm, and in case of any extensive epidemic the hospital would be made use of.

Riverton.—Two cases of small-pox occurred in Riverton. The cases were contracted in Merchantville, developed at Moorestown, from there traveled to various places and were finally quarantined in Riverton. There is no isolation hospital in the borough.

Roxbury Township.—Three cases of small-pox occurred in one family in this township. The disease was mild in form and there was no extension of it to other persons.

Rutherford.—Five cases of small-pox have occurred in this borough during the period from January 1st, 1902, to October 31st, 1902. Four of the cases were removed to the Hudson county isolation hospital at Snake Hill, and one of the cases was treated at home. The origin of the disease was obscure in each case, and although an effort was made to get a history of exposure it was not successful. There is no isolation hospital in this borough, but the Hudson county hospital at Snake Hill is within easy reach, and therefore, whenever possible, any patient suffering from small-pox is at once removed to this hospital.

Salem City.—Two cases of small-pox occurred in this city, and the origin of the disease was traced to exposure in Philadelphia. The city has not provided an isolation hospital.

Sayreville Township.—From January 1st to October 31st, 1902, two cases of small-pox were reported. The first case was in the person of a man employed on a boat, and it is supposed that he contracted the disease in Newark. The second case was in the person of a telephone lineman who had been exposed to the disease in Delaware. An isolation hospital has been provided for the care of all cases of small-pox.

Secaucus.—The following is a list of the number of cases of small-pox

which occurred, in Secaucus from January 1st to October 31st, 1902.—January, 1; March, 1; May, 2—Total, 4.

Shrewsbury Township.—Three cases of small-pox occurred in this sanitary district. One of the cases was traced to Philadelphia. Another one of the cases contracted the disease from one of the original cases. The third case occurred in a tramp, and no definite information of exposure could be obtained. The cases were removed to the hospital, which is under the control of the town of Red Bank. This hospital is located in the township, about one mile from the town limits, and has accommodation for thirty or forty patients.

South Orange Township.—Two cases of small-pox occurred in this township, the first being reported March 9th, 1902, and the second June 7th, 1902. The origin of the disease was not traced. The patients were both removed to the joint isolation hospital on Orange mountain.

South Orange Village.—Seven cases of small-pox occurred in this sanitary district from February 1st, 1902, to April 17th, 1902. Of the seven cases three occurred in one house. The origin of the disease was traced in all but two instances. Six out of the seven cases were treated at the joint isolation hospital, which is located on Orange mountain. This hospital is maintained by South Orange township, South Orange village and West Orange township.

South River.—Seven cases of small-pox occurred in this borough. The cases were nearly all traced to exposure at Sayreville and Newark. An isolation hospital has been provided for the care of all cases of small-pox.

Summit.—Six cases of small-pox were reported in Summit. The origin of the first case, which occurred January 19th, 1902, was traced to Union township, Union county. The second case was contracted in Millburn. The third and fourth cases which occurred were due to direct exposure. The fifth and sixth cases were traced to direct exposure to an infected person. A tract of land has been purchased by the city, and in future it is planned to build an isolation hospital, but at the present time a hospital tent is used for this purpose.

Tewksbury Township.—One case of small-pox was reported in this sanitary district. The origin of the disease was traced to exposure at Hackettstown during the epidemic which existed in that town.

Town of Union.—The following is a list of the number of cases of small-pox which occurred in Town of Union from January 1st to October 31st, 1902: February, 14; March, 2; May, 8; June, 3—Total, 27.

Trenton.—Thirty cases of small-pox were reported in this city from January 1st to July 6th, 1902. No cases have been reported since that date. Four of the cases were traceable to exposure in Philadelphia, one to Princeton, two to New Brunswick, two to Newark, one to Elizabeth, one to Baker's Basin, one to New York City, one to Jersey City and one to Long Branch. The number of cases which developed in families after they were removed to the hospital was twelve. The source of infection was traced in all but four of the cases. The city is fairly well provided with isolation hospital accommodations.

Vailsburgh.—One case of small-pox occurred in Vailsburgh on the 3d of February. The house was thoroughly fumigated and quarantine was raised on the 12th of March. The patient is supposed to have contracted the disease in Newark. There is no isolation hospital in the borough.

Verona Township.—Two cases of small-pox occurred in this township during the period extending from January 1st to October 31st, 1902. No

definite history could be obtained as to the origin of the disease in one case, but in the second case the patient had come from an infected house in Paterson. A tract of land has been secured by the local board of health, upon which an isolation hospital can be speedily erected if there should be a threatened outbreak of small-pox. It is not the intention of the local board of health to build a permanent hospital, but rather to be prepared to erect a temporary structure.

Voorhees Township.—From January 1st to October 31st, 1902, five cases of small-pox were reported in this township. In four of the cases the source of infection was traced. A member of one of the families residing in the township came from Philadelphia and contracted the disease in that city. In the fifth case no source of infection was traceable.

Union Township, Bergen County.—Two cases of small-pox occurred in this district from January 1st to October 31st, 1902. Dr. Hollister, of Ruth, erford, reported the cases, and a quarantine was immediately established. Arrangement was made for the removal of the cases to the Hudson county isolation hospital at Snake Hill. No further cases were reported.

Union Township, Union County.—Three cases of small-pox occurred in this township from January 1st to October 31st, 1902. The history of the cases showed that the disease was contracted in Newark. There is no isolation hospital in the township and so domestic quarantine was necessary.

Washington Township, Bergen County.—One case of small-pox occurred in this township. The origin of the case was traced to infection in New York. The patient was strictly quarantined and no other cases occurred. There is no isolation hospital in this sanitary district.

Washington Township, Morris County.—Two cases of small-pox occurred in this township, and the disease was traced to exposure to persons having the disease in Hackettstown. There is no isolation hospital in the township.

Wayne Township.—But one case of small-pox occurred in this township, and the patient is supposed to have contracted the disease in Paterson. There is no isolation hospital in this township.

Weehawken.—The following is a list of the number of cases of small-pox which occurred in Weehawken from January 1st to October 31st, 1902: January, 2; March, 1; April, 1; July, 1—Total, 5.

West Hoboken.—The following is a list of the number of cases of small-pox which occurred in West Hoboken from January 1st to October 31st, 1902: January, 17; February, 9; March, 5; April, 3; May, 4; June, 1—Total, 39.

West Milford Township.—One case of small-pox occurred in this township, and the origin of the disease was traced to exposure in New York City. There is no isolation hospital in this sanitary district.

West Orange.—Thirteen cases of small-pox were reported. The first case was traced to Newark and two of the other cases to East Orange and Orange. Only one of the persons affected died of the disease. The patients were removed to the isolation hospital, which was erected jointly by South and West Orange.

Wharton.—One case of small-pox occurred in this borough in the person of a physician, and the disease was contracted undoubtedly from cases existing at the time at Mine Hill, in Randolph township.

Winslow Township.—Two cases of small-pox were reported in this township. There was no extension of the disease beyond the original cases.

Report of Health Officer of the Port of Perth Amboy.

To the Board of Health of the State of New Jersey:

GENTLEMEN—I have the honor of submitting to you my third annual report as health officer of the port of Perth Amboy for the year ending September 30th, 1902, as follows: During the year 142 vessels entered this port and were inspected according to the requirements of the quarantine law. Of this number 39 were steam vessels and 103 sailing vessels. This is an increase over last year of 26 steam vessels and 14 sailing vessels. Forty vessels were from foreign ports and 102 from domestic ports.

The following examinations have been made during the year: Persons inspected on steam vessels, 1,287; persons inspected on sailing vessels, 1,020; total number of inspections for the year, 2,307, an increase of 972, or 57 per cent., over the previous year. These figures indicate the extent to which the port of Perth Amboy is growing commercially, and also show the increasing necessity for vigilance in guarding this gateway to the State against the entrance of persons affected with any of the dangerous communicable diseases.

In previous reports I have drawn attention to the need of a suitable launch for use in boarding incoming vessels, and desire to again point out the urgent necessity for such a boat.

The fees collected during the year amounted to \$387.50, an increase over the previous year of \$163.75. The following table shows the number of vessels which arrived in the port of Perth Amboy during the year, by months; also ports of departure and classification of vessels.

TIME OF ARRIVAL.	PORTS OF DEPARTURE.																					
	Steam Vessels.	Sailing Vessels.	Foreign.	Coastwise.	Savannah, Ga.	Charleston, S. C.	Fernandina, Fla.	Brunswick, Ga.	Cheverie, N. S.	Cayenne (Fr.)	Jacksonson- ville, Fla.	Port Tampa, Fla.	Tampico, Mex.	Antofagasta, Chile.	Constable Is. (Br.)	Port of Spain (Br.)	Pascagoula, Miss.	Trinidad (Br.)	Wilmington, N. C.	Georgetown, S. C.	Frederickton, N. B.	Total.
1901.																						
October.....	....	14	1	13	2	1	4	3	3	1	....	....	....	....	....	....	....	....	....	....	....	14
November.....	1	10	....	11	....	1	3	5	....	....	1	1	....	....	....	....	....	....	....	....	....	11
December.....	4	4	2	6	1	....	....	2	....	....	....	3	2	....	....	....	....	....	....	....	....	8
1902.																						
January.....	5	6	4	7	....	1	....	3	....	....	2	1	3	1	....	....	....	....	....	....	....	11
February.....	3	5	3	5	....	1	....	....	....	....	2	2	2	1	....	1	....	....	....	....	....	8
March.....	5	10	4	11	....	1	4	2	....	....	2	1	3	1	....	1	....	1	....	....	....	15
April.....	2	12	3	11	2	....	1	6	....	....	....	1	2	....	....	....	....	1	1	....	....	14
May.....	4	7	4	7	2	1	1	1	1	....	1	....	3	1	....	....	....	....	....	....	....	11
June.....	3	10	3	10	1	....	2	3	....	....	1	2	1	1	1	....	....	....	1	....	....	13
July.....	4	10	3	11	1	1	4	....	1	....	....	2	3	....	....	....	1	....	1	....	....	14
August.....	3	8	6	5	....	1	1	1	2	....	....	2	1	1	....	....	1	....	....	....	....	11
September.....	5	7	7	5	1	....	1	....	....	1	1	2	2	2	....	....	....	....	1	....	1	12
Total.....	39	103	40	102	10	8	21	27	7	2	10	17	21	6	2	2	8	3	1	1	1	142

The act governing maritime quarantine is being better observed by masters of vessels every year, and the inspection shows that the vessels which have recently arrived at the port are nearly all kept in a good sanitary condition. Because of the presence of plague in certain South American ports, the inspection of vessels has been continued throughout the year in accordance with a resolution of the State Board of Health.

Very respectfully,

E. A. HULTS, M.D.,

Health Officer of the Port of Perth Amboy.

Report on Inspection of Streams.

BY A. C. HUNT, M.D., STATE SANITARY INSPECTOR.

The streams which have been inspected, the pollutions which have been discovered and the action which has been taken for the removal of the sources of contamination will be found recorded in the following statement. The work was begun in 1899 and has been continued during the past three years:

ELIZABETH RIVER.

From this river was formerly taken the water-supply for the city of Elizabeth, but in the spring of the year 1902 the Elizabethtown Water Company were able to discontinue the use of the river water, as a sufficient quantity for supplying the city was obtained from new wells which had been driven near the Rahway river. The reservoir which was used for storing the river water has been thoroughly cleaned, and in future only the water from the wells will be supplied to the inhabitants of the city. In the year 1900 a thorough inspection was made of the Elizabeth river and numerous contaminations were noted, but as the water company was at that time carrying out plans to discontinue the use of river water, no legal steps were taken. Several branches of the river run through thickly-settled portions of Union county and are therefore liable to contamination by house drainage and street washings. In the town of Irvington a number of houses discharge sewage into the stream, and at Vailsburgh the entire sewage of a portion of the borough is discharged directly into a branch of the river. When the new sewer system which is planned for this section of Union county has been completed there is a possibility that the waters of the stream may again be available for potable purposes, but the supply from driven wells is much to be preferred.

HACKENSACK RIVER.

The waters of the Hackensack river, above New Milford, are used for potable purposes by a large population residing in Bergen and Hudson counties. The Hackensack Water Company owns the plant. Thirty-two boroughs and three large cities, including Hoboken, purchase potable water from this company. The water company has a system of stream inspection and nearly every possible point of contamination in New Jersey has been carefully noted. This private inspection has been carried on for a number of years, and all that has been thus accomplished in the way of removing contaminations has been secured by persuasion, as prior to the passage of the law of 1899 there was no law in the State which gave the company the power to compel owners to discontinue contamination of the waters of the river and its branches. A number of inspections have been made of this stream and the conditions existing and the result of action taken is herewith given.

In Tenaflly, on Washington street, it was found that a sink from the property occupied by the Southern Pacific Tea Company discharged directly into a brook which is a branch of the Cresskill brook. The drain was tested with aniline dye and the proof was conclusive that contamination existed. James C. Blauvelt, of Oradell, owner of the premises, was notified to discontinue the contamination. The case was finally referred to Mr. Carrick, as attorney, and the contamination was discontinued.

At Tenaflly, on the west side of the railroad, second house above Chestnut street, it was found that the house drain discharged into a small brook, which is one of the tributaries of the Hackensack river. The owner of the premises was John F. Shuh. A notice was sent to the owner April 18th, 1902, and reinspection showed that the pollution had been discontinued.

At Tenaflly, on Clinton avenue, a house drain from the residence of Mrs. James Westervelt was found to discharge directly into a branch of the Cresskill brook. The owner was notified to discontinue contamination of the stream on May 31st, 1902. Reinspection showed that the notice had been complied with.

On the corner of West Clinton avenue, Tenaflly, inspection showed that dishwater and washwater were thrown on the bank

of a brook which is a branch of the Hackensack river. The owner of these premises was Mrs. Caroline Pond. Notice was sent to the owner April 18th, 1902, and an inspection made in May showed that the notice had been complied with.

Inspection of the premises in Tenaflly occupied by Abram G. Demarest Company showed that the overflow from the cesspool discharged directly into a tributary of the Hackensack river. Notice was sent to the owners April 18th, 1902, and on May 31st, 1902, the case was placed in the hands of Mr. Carrick, of Jersey City, for legal action. Communication was received from the owner stating that the cesspool had been disconnected, and an inspection showed that the notice had been complied with.

Inspection of the factory owned by Paul Richter, Tenaflly, showed that dye-stuffs from the factory were discharged upon the ground and found their way into a small brook which is one of the tributaries of the Hackensack river. Notice was sent to the owner April 18th, 1902, requesting that the contamination should be discontinued. Reinspection on May 31st, 1902, showed that there was no further contamination.

Examination of the premises owned by Edward O'Connor, Tenaflly, showed that house drainage was discharged into the gutter on Fourth street, and thence to the brook some forty feet away. Notice was sent to the owner April 18th, 1902, to discontinue the contamination. Reinspection made May 31st, 1902, showed that there was no discharge of sewage from the pipe.

On the river, one mile above New Milford, an inspection was made of the premises owned by the Kinderkamack Canoe Club. Prior to the inspection the privy on the premises was so located that there was danger of contamination of the stream, but upon notice being received the closet was moved, and a cemented vault constructed at a point so far removed from the stream as to overcome any danger of contamination.

At Etna, in Washington township, west of the New York and New Jersey railway track, inspection showed that there was a closet located seventy-five feet from the stream, and that following heavy rain there was opportunity for contamination of the waters of the brook. The contamination at this point is somewhat indirect, as the brook into which sewage is discharged is absolutely dry during the summer. The owner, Theresa Doremus, was notified to alter the construction of the privy so that there

might be no danger of contamination. Reinspection of these premises showed that the notice had been complied with.

At Etna, Washington township, inspection showed that on the premises of the Schuyler Body estate, sewage was discharged from a house drain into a ditch, which is located on the west side of the New York and New Jersey railway, and that the privy on the premises was within twelve feet of the ditch. Notice was served upon the representative of the estate April 16th, 1902, and reinspection June 5th, 1902, showed that a cesspool had been dug, and that the contamination had ceased.

At Etna, Washington township, on the premises owned by August Block, inspection showed that drainage from the house discharged within ten feet of a ditch on the west side of the New York and New Jersey railway. This ditch is one of the tributaries of the Hackensack river. Notification was sent to the owner April 16th, 1902, requiring a discontinuance of the contamination. The case was referred to Mr. Carrick, of Jersey City, as attorney, and reinspection showed that a cesspool had been dug.

Inspection of the premises located at Etna, Washington township, owned by Paul Decker, Baldwin avenue, Jersey City, showed that house drainage was discharged into a ditch on the west side of the New York and New Jersey railway. This ditch is one of the tributaries of the Hackensack river. Notice was served upon the owner April 16th, 1902, and the case was finally referred to Mr. Carrick, of Jersey City, as attorney. Reinspection of the premises showed that a cesspool had been constructed, and that there was no further contamination.

Inspection of a house located on what is known as Great Bear creek, one mile from Woodcliff, showed that house drainage was discharged into an old raceway and thence into Great Bear creek. James Leach, of Park Ridge, is the owner of the property. Notice was sent to the owner April 16th, 1902. Since that date the house has been unoccupied, and therefore there is no contamination at this point.

Inspection of the premises owned by Edward Helbeck, located west of Woodcliff, showed that house waste was discharged into a branch of Great Bear creek. This creek is one of the tributaries of the Hackensack river. Notice was served upon the owner April 16th, 1902, and a cesspool was dug to receive the liquid waste.

Inspection of the premises owned by Jeanette C. Smith, located near Closter, showed that drainage from a laundry and sink was discharged directly into one of the tributaries of the Hackensack river. Notice was sent April 21st, 1902. The contamination at this point has ceased.

Examination of the premises owned by Mrs. Sarah M. Stevens, Closter, showed that waste liquids were discharged into a cesspool, and thence directly into one of the tributaries of the Hackensack river. Notice was sent to the owner April 21st, 1902. Upon receipt of notice the owner discontinued contamination.

Inspection of the premises owned by Mrs. James Westervelt, located in Hillsdale township, showed that the farm buildings were so located, in reference to the stream, that there is likely to be contamination of the waters of Pascack creek, which is a tributary of the Hackensack river. As there was no evidence of direct contamination, no action was taken in this instance.

Inspection of the premises of Peter Haring, Hillsdale township, showed that the cesspool on the premises was located within ten feet of a tributary of the Hackensack river, and that the privy was within five feet of the stream. Both the vault and cesspool were cemented, and at the time of inspection there was no evidence of direct contamination of the stream.

Inspection of the premises owned by John H. Riley, Hillsdale township, showed that house drainage was discharged upon a field, and that the overflow from the cesspool sinks into a meadow. At the time of inspection there was no evidence of direct contamination.

LAWRENCE BROOK.

The Lawrence brook is a stream which has its origin in Middlesex county, near Monmouth Junction. The water-shed consists principally of swamp, wood and farm land. The city of New Brunswick obtains water for potable purposes from this stream. A thorough inspection has been made of the brook, and but few contaminations have been noted.

Inspection of the premises owned by Peter Stamm, located on a branch south of Weston's pond, at what is known as Rider's lane, showed that house drainage and waste washwater from a bottling

establishment was discharged into a branch of the Lawrence brook. Notice was sent to the owner April 29th, 1902. Reinspection of the premises showed that the notice had been complied with, and that the contamination had ceased.

Inspection made April 28th, 1902, of the Somerset and Raritan Traction Company's plant, at Milltown, for the purpose of ascertaining if there was any contamination of the stream at that point. No action was taken in this case, as the only material of a polluting nature which was apparently entering the stream consisted of oil from the machinery.

Examination of the premises owned by George Hohlkepp, Milltown, showed that although at times washwater is thrown on the ground, within 100 feet from the public supply, nevertheless, at the time of inspection there was no evidence of direct contamination.

Examination of the premises owned by Peter Emmons, Monmouth Junction, made April 30th, 1902, showed that liquid waste from a house drain was discharged into a swamp lying along one of the tributaries of the Lawrence brook. The owner was notified to discontinue the contamination May 6th, 1902. Reinspection showed that the notice had been complied with.

Inspection of the premises owned by James Parsons, located near Milltown, showed that a privy was located within thirty feet of the brook, and that there was evident pollution of the stream at this point. Notice was sent to the owner August 7th, 1902. On August 16th, 1902, the case was referred to the attorney, and the nuisance was abated by the removal of the closet.

Inspection made August 7th, 1902, of the factory premises owned by the International Automobile and Vehicle Tire Company, Milltown, showed that waste water from a wash-basin was discharged into the Lawrence brook. Notice was served upon the owners August 8th, 1902, and the contamination was discontinued.

August 7th, 1902, inspection was made of a camp for laborers engaged in the construction of a trolley line. The person in charge of the camp was John J. Strang. At this camp some fifty workmen and thirty horses were located. Near the camp was a small stream which is one of the tributaries of the Lawrence brook. No provision whatever had been made in the camp for the care of excreta or waste liquids, and the inspection showed that the stream

was being contaminated by human and animal excreta, and that washwater was being emptied on the banks of the stream. There was also a large accumulation of manure from which, during rains, there was a discharge of liquid manure into the brook. The case was placed in the hands of Mr. Booraem, as attorney, August 16th, 1902. On August 25th, 1902, a report was received from Dr. Clark, health officer of New Brunswick, showing that there was no further contamination. The defendant paid the costs of the suit.

RAHWAY RIVER.

Two cities in the State obtain water for potable purposes from this river. The supply for the city of Orange is taken from the west branch of the river above Millburn. In three instances contaminations of the stream above the Orange reservoir have been noted, and in each case the contamination was discontinued after notice from this board. The intake of the city of Rahway is located on the river, within the city limits. The west branch has its course through Millburn, and the east branch has its origin in West Orange, and its course is between West Orange and Orange and through South Orange. Constant inspection has been made of the stream from the Rahway intake on both the east and west branches, and the contaminations which have been noted and the action taken in each case is as follows:

At Garwood, Union county, inspection of the premises on Myrtle avenue, west of Central avenue, showed that house drainage was discharged directly into a branch of the river. The owner of the property is Wm. W. Reeder. Notice was served on August 22d, 1901. Reinspection showed that the contamination still continued, the owner having moved away to Pennsylvania. As there is nothing in the law which gives the power to serve notices upon persons outside of the State, this case has been placed in the hands of a lawyer for prosecution.

Examination of the premises in Garwood owned by Philip Epstein was made May 24th, 1902, and reinspection August 29th, 1902, showed that no change had been made in existing conditions. This case has been placed in the hands of counsel for suit. The absence of the owner from the State has deferred action.

Examination of the premises on Willow avenue, west of Central avenue, Garwood, showed that house drainage was discharged directly into a brook which is a tributary of the river. The owner of the premises was Mr. Frederick Gritzner. Upon notice, the contamination was stopped.

Inspection of the premises owned by Adolph Will, located in Garwood, showed that sewage was discharged from a house drain into a brook which is a tributary of the Rahway river. Notice was sent to the owner June 6th, 1902. Upon reinspection November 15th, 1902, it was found that a cesspool had been dug, and the contamination had ceased.

Inspection of premises in Garwood, located on Willow avenue, east of Central avenue, showed that house drainage was discharged from a house occupied by Philip Carkhoff. May 24th, 1902, notice was served upon the agent of the property and inspection November 15th, 1902, showed that the contamination had ceased.

Inspection of premises located on Willow avenue, east of Central avenue, Garwood, showed that house drainage was discharged directly into a brook which is a tributary of the Rahway river. The owner of the property is Bartlett C. Harris. Notice was served upon the owner May 24th, 1902. Inspection showed that no action had been taken, and the case has been placed in the hands of an attorney.

Examination of premises located on Willow avenue, east of Central avenue, Garwood, showed that house drainage was discharged from the premises occupied by Paul Lambert directly into a brook which is a tributary of the Rahway river. The matter is in the hands of legal counsel.

Examination of premises located on Central avenue, Garwood, showed that from the property which is owned by Mrs. Phoebe C. Reeder house drainage is discharged directly into a brook which is a tributary of the Rahway river. Notice was served upon the owner, but on account of absence from the State to the present time no action has been taken, but the matter has been placed in the hands of legal counsel and a suit has been ordered.

Examination of four properties located on South Orange avenue, South Orange, and owned by Daniel Polhemus, showed that house drainage was discharged into a brook which is a tributary of the Rahway river. Notice was served upon the owner, and re-

inspection May 19th, 1902, showed that there was no further contamination.

Examination of premises located on Forrest street, Orange, showed that a privy was so located that night soil leached from the closet into the brook. Notice was served upon the owner, Mr. Isaac M. Williams May 5th, 1902. Reinspection May 21st, 1902, showed that no action had been taken. Suit was ordered May 23d, 1902, and the contamination was discontinued.

Examination of premises owned by Peter Bierne, South Orange avenue, showed that stable manure was placed upon the bank of the stream. Notice was served upon the owner May 15th, 1902, and the material was removed.

Examination of the premises located on Main street, Millburn, owned by Charles A. Lighthipe and occupied by Charles A. Posch, showed that house drainage was discharged into the west branch of the Rahway river. Notice was served upon the owner, and no action being taken, suit was ordered. The owner constructed a cesspool and paid the costs of the suit.

Examination of premises on Main street, Millburn, occupied by George F. Ell, and owned by Charles A. Lighthipe, showed that a bath and wash-basin were connected with a drain which discharged directly into the west branch of the Rahway river. Notice was served upon the owner, and no improvements being made in the conditions, suit was ordered. The owner constructed a cesspool and paid the costs of the suit.

Examination of the premises located on Main street, Millburn, showed that washwater from a laundry was discharged directly into the west branch of the Rahway river. Notice was served upon the owner, Charles A. Lighthipe, and no action being taken suit was ordered. The owner constructed a cesspool and paid the costs of the suit.

Examination of premises located at Vreeland's Mill showed that a hog-pen was located on a high bank above the stream. Notice was served upon the owner April 28th, 1900, and reinspection of the premises showed that the contamination had been discontinued.

Examination of premises located on Stockman street, West Orange, owned by Andrew Zeluski, showed that house drainage was discharged directly into the east branch of the Rahway river.

Notice was served upon the owner. The case was referred to an attorney May 23d, 1902, and the owner constructed a cesspool.

Examination of premises on Stockman street, West Orange, showed that house drainage from the premises owned by Otto Miller was discharged directly into the east branch of the Rahway river. Notice was served upon the owner, and reinspection showed that the contamination had been discontinued.

Examination of premises located on Central avenue, Orange, and owned by Regina Clover, showed that a privy was so located that the waters of the east branch of the Rahway river were contaminated. Reinspection made May 5th, 1902, showed that the privy had been earthed up, and there was no direct contamination at this point.

Examination of the No Name hat factory, Orange, showed that dye-stuffs from the factory were discharged directly into the east branch of the Rahway river. Reinspection made May 21st, 1902, showed that an arrangement had been made for discharging the dye-stuffs into the sewer, and at that time there was no contamination of the stream.

Examination of the premises located on Stockman street, West Orange, and owned by George Rettinger, showed that house drainage was discharged directly into the east branch of the Rahway river. Notice was served upon the owner May 5th, 1902, and reinspection made May 21st, 1902, showed that no action had been taken by the owner. Suit was ordered in this case May 23d, 1902, and the contamination was stopped.

Examination of the American Felt Company's factory, located at Picton, New Jersey, showed that dye-stuffs from the factory were discharged onto filter beds, and that there was leakage from the filter beds into the stream. Notice was served upon the owner April 28th, 1900, and the contamination was at once stopped. In this case the contamination was due to obstruction in a sewer, which was intended to carry away the dye-stuffs to a point below the intake.

Examination of the premises on Stockman street, West Orange, owned by Frederick Stocker, showed that house drainage was discharged directly into the east branch of the Rahway river. Reinspection made May 5th, 1902, showed that a cesspool had been constructed and the contamination had ceased.

Examination of premises No. 271 South Jefferson street, Orange, showed that house drainage was discharged directly into the east branch of the Rahway river, and that the water closet was so located that its contents would find their way into the stream. Notice was served upon the owner May 11th, 1900, and the contamination was stopped.

Examination of premises on Stockman street, south of Mitchell street, showed that drainage from a double house was discharged into the east branch of the Rahway river under the No Name hat factory. The owner of the property was John B. Stetson, of Philadelphia. No action was taken in this case, as the test to determine the facts was unsatisfactory.

Examination of premises No. 26 Stockman street, owned by William Lahner, showed that house drainage was discharged directly into the east branch of the Rahway river. Notice was served upon the owner to discontinue the contamination. Reinspection made May 5th, 1902, showed that the contamination had ceased.

Examination of premises located on Stockman street, West Orange, between Mitchell and Freeman streets, showed that house drainage was discharged directly into the east branch of the Rahway river. Reinspection made May 21st, 1902, showed that no action had been taken. This case is still under consideration and has been placed in the hands of a lawyer.

Examination of premises on South Jefferson street, Orange, showed that dye-stuffs and waste liquids from the factory of E. C. Connett & Company were discharged directly into the east branch of the Rahway river. Notice was served upon the owner to discontinue the contamination May 15th, 1900. Reinspection of the premises showed that the notice had been complied with.

Examination of premises on Nassau street, Orange, owned and occupied by Austin & Drew Hat Company, showed that dye-stuffs from the factory were discharged directly into one of the tributaries of the Rahway river. Notice was served upon the owner May 15th, 1900, and the factory was connected with the sanitary sewer.

Inspection of the premises on South Jefferson street, Orange, owned by the Frederick Berg Hat Company, showed, that dye-stuffs were discharged directly into a tributary of the Rahway river. Re-examination of the premises made April, 1902, showed

that dye-stuffs were discharged into the sanitary sewer, but that there was still some contamination by waste water from the factory. Since that time the factory has been destroyed by fire.

Examination of property in West Orange township, owned by William Crouse, Valley Road, showed that a closet was located on the bank of the brook, and in such close proximity as to endanger the purity of the waters of the stream. Notice was served upon the owner, and the contamination was discontinued.

Examination of premises located on Union street, West Orange, owned by Mrs. Catharine Rogers, showed that house drainage was discharged directly into a tributary of the Rahway river. Notice was served upon the owner May 6th, 1902, and a cesspool was constructed.

Examination of premises on Main street, Millburn, owned by David J. Mundy and Mrs. George Roberts, showed that house drainage was discharged directly into the west branch of the Rahway river. Notice was served upon the owner May 1st, 1900, and the contamination was at once discontinued.

Examination of a hotel property located in Millburn, owned by Charles and Julius Whittkop, showed that house drainage was discharged directly into the west branch of the Rahway river, and that a garbage heap was placed upon the bank of the stream. Notice was served upon the owners May 1st, 1900, and a cesspool was at once constructed and the garbage heap removed.

Examination of a tenement house property on Millburn avenue, Millburn, owned by William W. and W. Eugene McCullum, showed that house drainage was discharged upon the ground within 100 feet of the west branch of the Rahway river. Notice was served upon the owners May 21st, 1900, and re-examination showed that the pollution at the present time is indirect.

Examination of premises located on Main street, Millburn, and owned by F. S. Bailey, showed that sewage from a closet and two sinks in a house was discharged directly into the west branch of the Rahway river. Notice was served upon the owner May 1st, 1900, and a cesspool was at once constructed.

Examination of premises on Main street, Millburn, in the rear of tenement houses, showed that privies were so placed upon the bank of the west branch of the Rahway river that the contents therefrom were discharged directly into the stream. Notice was

served upon the owner, Charles A. Lighthipe, and the contamination was discontinued.

Examination of the Diamond Paper Mill Company's premises, at Millburn, showed that waste liquids from the factory were discharged directly into the west branch of the Rahway river, and that two privies were located on the banks of the stream. Notice was sent to the owners September 3d, 1899. The case was referred to an attorney June, 1901. The case was argued before Vice Chancellor Stevens, by whom a decision was rendered upholding the constitutionality of the act, and an injunction was ordered. The case was argued before the Court of Errors and Appeals, and, November 17th, 1902, the decision of the Vice Chancellor was sustained.

Examination of the Fandangó Paper Mill premises, Millburn, showed that waste liquids were discharged from this mill directly into the west branch of the Rahway river. Notice was served upon the owners April 27th, 1900. Filter beds were constructed by the owners, but re-examination of the premises showed that these beds were not effective, and that there was still contamination at this point. No action was taken in this case until a decision had been reached in the Diamond Paper Mill case. November 17th, 1902, the decision of the Vice Chancellor having been rendered, an additional notice was sent to the owners to discontinue the contamination at this point. The case will be placed in the hands of legal counsel for prosecution.

Examination of the premises of the Zipon Manufacturing Company, Springfield, made September 23d, 1899, showed that although there was some discharge of waste chemicals into the stream that contamination at that time was indirect, and therefore no action was taken.

Examination of the premises of the American Copper Extraction Company, Garwood, showed that waste liquids, heavily charged with copper, were discharged directly into a tributary of the Rahway river. Notice was sent to the owners June 27th, 1901. This case was finally taken up by the Union county courts, and the owners were fined \$1,000 for the pollution. April 13th, 1902, the factory was destroyed by fire, and up to the present time has not been rebuilt.

Examination of the premises of the Palmer Leather Company,

West Orange, showed that waste liquids were discharged directly into a tributary of the Rahway river. Notice was served upon the owners June 27th, 1901. Reinspection was made of the premises April 25th, 1902, and at that time there was no direct contamination of the stream, as the waste liquids were being discharged onto a large area of ground, and an embankment had been so placed as to retain dye-stuffs and foul liquids upon a certain area.

Examination of the premises owned by Nicholas Nardiello, and located on Joy street, West Orange, showed that house drainage was discharged directly into the east branch of the Rahway river. Notice was served upon the owner May 6th, 1902, and re-examination made May 21st, 1902, showed that the contamination had been discontinued.

Examination of the premises in the rear of the McGall Manufacturing Company, on Central avenue, West Orange, showed that dye-stuffs from the factory were discharged into the east branch of the Rahway river. Notice was served upon the owner May 6th, 1902, and reinspection made May 21st, 1902, showed that a settling basin had been constructed, and that there was no direct contamination at this point.

Examination of premises located on Stockman street, West Orange, and owned by Conrad Schneckenburg, showed that there was no direct contamination at this point.

Examination of the premises in the rear of the Trimble, Cless Hat Company, Orange, showed that dye-stuffs and the overflow of sewage from a sewer were discharged directly into the east branch of the Rahway river. The health officer of Orange notified the sewer committee, and the sewer on the premises was reopened and the contamination of the stream at this point stopped.

Examination of premises owned by Seton Hall College, located on South Orange avenue, South Orange, showed that house drainage was discharged into a cesspool on the north side of South Orange avenue, and that the overflow from the cesspool found its way into a tributary of the Rahway river. Notice was served upon the owners and the cesspool was cleaned, and a blind drain constructed.

Examination of the premises owned by Patrick Finnegan, located on South Orange avenue, South Orange, showed that sewage

was discharged directly from a cesspool into a brook which is a tributary of the Rahway river. Notice was served upon the owner May 6th, 1902, to discontinue the contamination. Dr. Heberton, health officer of South Orange, reported that the contamination had been discontinued by the owner.

Examination of the premises owned by the Ernest Lighthipe Paper Board Company, Millburn, showed that waste liquids from the factory were discharged directly into the west branch of the Rahway river. Notice was served upon the owner May 6th, 1902. No legal action was taken in this case, but the decision in the Diamond Mill case having been rendered, the matter will be at once placed in the hands of counsel, and an effort made to secure an injunction.

Examination of the premises owned by Robert Kelly, located on Willow avenue, Garwood, showed that house drainage was discharged directly into a tributary of the Rahway river. Notice was sent to the owner June 6th, 1902. The matter was placed in the hands of an attorney November, 1902, and the owner at once constructed a cesspool.

Examination of the premises on Willow avenue, east of Central street, Garwood, showed that from the premises occupied by Henry Hefell house drainage is discharged directly into a tributary of the Rahway river. Notice was served upon the agent of the property May 24th, 1902. Since that time a cesspool has been constructed.

Examination of premises on Willow avenue, east of Central street, Garwood, occupied by Edward A. Thompson, showed that house drainage was discharged directly into a tributary of the Rahway river. Re-examination made November 15th, 1902, showed that a cesspool had been constructed.

Examination of premises No. 13 Liberty street, Orange, showed that house drainage was discharged directly into the stream. Notice was served upon the owner, William Schneider, May 26th, 1902. The case was referred to an attorney June 4th, 1902, and a cesspool was at once constructed.

Examination of the premises owned by Helen Stapleton, 19 Union street, Orange, showed that waste liquids were discharged from the house drain directly into a tributary of the Rahway river. Notice was served upon the owner to discontinue the contamina-

tion on May 27th, 1902. Inspection made June 16th, 1902, showed that the pipe was dry and that there was no evidence of contamination at this point.

Examination of premises on Liberty street, south of West Christopher street, Orange, showed that from the premises waste liquids were discharged directly into the east branch of the Rahway river. Notice was served upon the owner, Isaac M. Williams, May 27th, 1902. Reinspection made June 16th, 1902, showed that the drain had been taken up and the contamination discontinued.

Inspection of premises owned by Isaac M. Williams, and known as 8 and 10 Liberty street, near Tremont street, Orange, showed that house drainage was discharged into a branch of the Rahway river, and that a privy was so located on the banks of the stream that the contents thereof would reach the brook. Notice was served upon the owner to discontinue the contamination on May 27th, 1902. The case was referred to an attorney June 4th, 1902. Inspection made June 16th, 1902, showed that the privy had been moved and that house drainage was no longer discharged into the stream.

Examination of the premises No. 11 Liberty street, Orange, showed that house drainage was discharged directly into a tributary of the Rahway river. Notice was served upon the owner, Michael Brennan, May 26th, 1902. The case was referred to an attorney June 4th, 1902. Inspection made June 16th, 1902, showed that there was no longer any contamination at this point.

Inspection of premises on Cross street, West Orange, showed that house drainage was discharged directly into a ditch, and thence found its way to the east branch of the Rahway river. Notice was served upon the owner, Peter Romalli, June 6th, 1902, and the owner discontinued the contamination.

Inspection of premises on Cross street, West Orange, owned by Edward Humphrey, and occupied by Charles Sautto, showed that house drainage was discharged into a cesspool, and thence into a tributary of the Rahway river. This case has been placed in the hands of an attorney.

Inspection of four premises on Cross streets, West Orange, owned by Charles Hayward, showed that house drainage was discharged into a tributary of the Rahway river. Notice was served

upon the agent of the property, and the cases have been placed in the hands of an attorney.

Inspection of the premises, No. 6 Tremont street, West Orange, showed that house drainage was discharged directly into the east branch of the Rahway river. Notice was sent to the owner, Adolph Hoffman, June 6th, 1902. Reinspection showed that the contamination at this point is not apparent.

Inspection of the premises of the Ernest Lighthipe Paper Board Company, Millburn, showed that a pile of horse manure was placed in the rear of the stables, and directly on the east branch of the Rahway river. Notice was served upon the owner July 15th, 1902. The case was placed in the hands of an attorney, and the owner had the manure removed.

Inspection of the premises owned by Leonard Hain, Mitchell street, West Orange, showed that a water closet was directly connected with the brook. Notice was sent to the owner October 3d, 1902, and the use of the closet was discontinued.

Inspection of premises on Willow avenue, Garwood, owned by John Hook, showed that house drainage was discharged directly into a tributary of the Rahway river. Notice was served upon the owner November 18th, 1902, and a cesspool will be constructed.

Inspection of the premises on the corner of Central and Willow avenues, Garwood, showed that house drainage from the house owned by Conrad Kein was discharged directly into a tributary of the Rahway river. Notice was served upon the owner to discontinue the contamination on September 20th, 1902. No action has yet been taken, and the matter will be referred to an attorney.

RANOCAS CREEK.

From this stream the potable water-supply for the town of Mount Holly is taken. The stream has its course through a sparsely settled region. The attention of the State Board of Health has been drawn to two points of contamination. At Pemberton sewage is discharged upon an open field, but several inspections of this locality have shown that at the present time there

is no contamination at this point. As there are but very few houses connected with the sewer system, the amount of sewage discharged is very small, and it disappears upon the meadow where it is discharged.

Inspection of the premises of the H. B. Smith Machine Company, located at Smithville, showed that there was discharge of foul liquids from a sink in a boarding-house, and also from three basins. A urinal which was used by the men boarding in the factory was connected directly with the creek. Notice was served upon the superintendent, Elton A. Smith, to discontinue the contamination, and the case was placed in charge of a lawyer December, 1900. The owner at once constructed a cesspool, and at the present time there is no contamination.

SUMMARY.

Elizabeth river.—The waters of this stream are no longer used for potable purposes.

Hackensack river.—Contaminations noted, 19; contaminations discontinued, 15; cases awaiting action, 4.

Lawrence brook.—Contaminations noted, 7; contaminations discontinued, 5; cases awaiting action, 2.

Rahway river.—Contaminations noted, 68; contaminations discontinued, 49; cases awaiting action, 19.

Rancocas creek.—Contaminations noted, 1; contaminations discontinued, 1; cases awaiting action, 0.

Total number of contaminations noted on all streams, 95; total number of contaminations discontinued, 70; total number of cases awaiting action, 25.

TABLE 1.—SHOWING LOCALITIES IN NEW JERSEY HAVING PUBLIC WATER-SUPPLIES, WITH CERTAIN DATA IN REFERENCE TO SOURCE OF SUPPLY, ETC.

NAME OF PLACE.	County.	Date of Intro- duction.	Ownership.	Source of supply.	Daily con- sumption— gallons.	Standpipe or reservoir.	Pressure— pounds.	Number of taps.	Meter rates per 1,000 cubic feet.	Rates where meter not used.
Annandale	Hunterdon ..	1897.	Private company ..	Mountain springs.	60,000	Reservoir ..	90	50	\$1 50 per 1,000	Schedule.
Allenhurst	Monmouth ..	1896.	Borough	Artesian	175,000 Tank ..	Artesian	40	180	No meters ..	Schedule.
Asbury Park	Monmouth ..	1896.	City	Artesian—Filters.	540,000 Standpipe ..	Artesian	45	1,200	\$1 00 per 1,000	All meters.
Arlington	Hudson	1883.	City	Artesian and surface	3,742,950	Standpipe ..	45	4,477	\$1 75 per 1,000	Schedule.
Atlantic Highlands ..	Monmouth ..	1893.	Borough	Artesian—Filters	120	Standpipe ..	370	3	\$1 00 per 1,000	Schedule.
Avon	Cape May ..	1893.	Borough	Artesian	25,000 Reservoir ..	Artesian	40	40	No meters ..	Schedule.
Bayhead	Ocean	1889.	Private company ..	Artesian	100,000 Standpipe ..	Artesian	25	115	No meters ..	Schedule.
Bayonne	Hudson	1882.	City	Pegannock	Reservoir ..	Reservoir ..	25	25	.....	.....
Beach Haven	Ocean	1893.	Borough	Artesian .....	.....	Standpipe ..	48	.....	.....	.....
Belleville	Essex	1871.	Village	Pegannock	70,000 Reservoir ..	Reservoir ..	50	650	\$1 25 per 1,000	Schedule.
Belmar	Monmouth ..	1897.	Borough	Artesian	100,000 Standpipe ..	Standpipe ..	45	400	8 00 per 1,000	Schedule.
Belvidere	Warren	1878.	Private company ..	Delaware river ..	10,000 Direct	Direct	85	40	1 75 per 1,000	Meters only.
Bernardsville	Bergen .....	.....	Hacksack W. Co. ..	Hacksack river ..	.....	.....	.....	.....	.....	.....
Beverly	Somerset ..	1887.	Private company ..	Delaware river ..	.....	.....	.....	.....	.....	.....
Blairtown	Burlington ..	1889.	Private company ..	Springs .....	.....	.....	65	.....	.....	.....
Bloomfield	Essex .....	.....	.....	East Orange ..	.....	.....	.....	.....	.....	.....
Bogota .....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Boonton	Morris	1895.	Private company ..	Mountain stream	250,000 Reservoir ..	Reservoir ..	20-105	300	\$1 15 per 1,000	Schedule.
Bordentown	Burlington ..	1886.	Private company ..	Delaware river ..	500,000 Reservoir ..	Reservoir ..	60	500	1 25 per 1,000	Schedule.
Bound Brook	Somerset ..	1888.	Private company ..	Middle brook ..	500,000 Reservoir ..	Reservoir ..	43	350	No meters ..	Schedule.
Breslin Park	Morris	1891.	Association	Lake Hopatcong ..	.....	.....	30	.....	.....	.....
Bridgeton	Cumberland ..	1878.	City	Springs and wells	900,000 Standpipe ..	Standpipe ..	40	2,200	.....	Schedule.
Burlington	Burlington ..	1804.	City	Delaware river ..	500,000 Standpipe ..	Standpipe ..	60	1,700	\$1 50 per 1,000	Schedule.
Caldwell	Essex	1902.	Borough	Driven wells ..	13,000,000 Standpipe ..	Standpipe ..	31	15,000	\$0 90 per 1,000	Schedule.
Camden	Camden	1883.	City	Artesian wells ..	.....	.....	.....	.....	.....	.....
Cape May City	Cape May ..	1874.	City	Surface wells ..	20,000 Tank	Tank	30	50	No meters ..	Schedule.
Cape May C. H.	Cape May ..	1895.	Private	Driven wells ..	100,000 Standpipe ..	Standpipe ..	25	75	No meters ..	Schedule.
Cape May Point	Cape May ..	1876.	Private	Artesian wells ..	60,000 Direct	Direct	40	225	\$1 75 per 1,000	Meters.
Carlstadt	Bergen .....	.....	Hacksack W. Co. ..	Hacksack river ..	.....	.....	55-105	.....	1 00 per 1,000	Schedule.
Carters	Middlesex ..	1897.	Private	Artesian. So. Plainfield	70,000 Standpipe ..	Standpipe ..	100	175	1 90 per 1,000	Schedule.
Chatham	Morris	1898.	Borough	Artesian well ..	45,000 Direct	Direct	60	189	1 75 per 1,000	Meters.
Clayton	Gloucester ..	1895.	Private company ..	Driven wells ..	60,000 Reservoir ..	Reservoir ..	130	160	1 50 per 1,000	Schedule.
Cliffside	Bergen .....	.....	Hacksack Co.	Hacksack river ..	.....	.....	.....	.....	.....	.....
Clinton	Hunterdon ..	1897.	Private	Mountain springs	.....	.....	.....	.....	.....	.....

TABLE 1.—SHOWING LOCALITIES IN NEW JERSEY HAVING PUBLIC WATER-SUPPLIES, WITH CERTAIN DATA IN REFERENCE TO SOURCE OF SUPPLY, ETC.—Continued.

NAME OF PLACE.	County.	Date of intro- duction.	Ownership.	Source of supply.	Daily con- sumption— gallons.	Standpipe or reservoir.	Pressure— pounds.	Number of taps.	Meter rates per 1,000 cubic feet.	Schedule, Rates where meter not used.
Collingswood.....	Camden.....	1891.	Private.....	Springs.....						
Columbia Heights.....	Essex.....		Private.....	Wells at Plainfield.....						
Cranford.....	Union.....	1895.	Private.....	Artesian.....			24			
Darlington.....	Monmouth.....	1882.	Private.....	Brook and filters.....		Standpipe.....	60			Schedule.
Deal.....	Monmouth.....		Hackensack W. Co.....	Hackensack river.....	30,000	Direct.....	85	109	\$1 75 per 1,000	Meters.
Delford.....	Bergen.....	1887.	Private.....	Springs.....		Reservoir.....	90	500	2 00 per 1,000	Meters only.
Dover.....	Morris.....		Hackensack W. Co.....	Hackensack river.....	14,000	Direct.....	45	36	1 75 per 1,000	Meters only.
Dumont.....	Bergen.....		Private.....	Wells.....						
East Orange.....	Essex.....	1882.	Hackensack W. Co.....	Hackensack river.....	80,000	Direct.....	85	322	\$1 75 per 1,000	Meters.
East Rutherford.....	Bergen.....		Hackensack Co.....	Hackensack river.....	2,085,000	Direct.....	80	174	1 75 per 1,000	Meters.
Edgewater.....	Bergen.....		Hackensack Co.....	Hackensack river.....						
Egg Harbor City.....	Atlantic.....	1896.	Private.....	Artesian.....						
Elizabeth.....	Union.....	1884.	Hackensack W. Co.....	Deep wells.....	250,000	Reservoir.....	35			
Englewood.....	Bergen.....		Hackensack W. Co.....	Hackensack river.....	8,750	Direct.....	70	992	\$1 75 per 1,000	Meters.
Englewood Cliffs.....	Bergen.....		Private.....	Springs.....			60	15	1 75 per 1,000	Meters.
Essex Fells.....	Essex.....	1893.	Hackensack W. Co.....	Hackensack river.....	15,500	Direct.....	85	62	\$1 75 per 1,000	Meters.
Fairview.....	Bergen.....		Private.....	Wells at Plainfield.....						
Fanwood.....	Union.....	1892.	Private.....	Barlton river.....			35			
Flemington.....	Hunterdon.....	1864.	Private.....	See Nutley.....						
Florham Park.....	Essex.....		City.....	Artesian.....		Standpipe.....	40	500	\$1 50 per 1,000	Schedule.
Franklin Township.....	Monmouth.....	1891.	Private company.....	Wells.....	125	Reservoir.....	65	42		Schedule.
Freehold.....	Hunterdon.....	1901.	Private.....	Deep wells.....	20,000		80			
Frenchtown.....	Bergen.....	1885.	Private.....	Driven wells.....			35			
Garfield.....	Gloucester.....	1896.	Private company.....	Springs.....			75			
Glassboro.....	Hunterdon.....		Private company.....	Wells at East Orange.....						
Glen Gardner.....	Essex.....		City.....	Springs and creek.....						
Glen Ridge.....	Camden.....	1884.	Hackensack W. Co.....	Hackensack river.....	120,000	Reservoir.....	35	474	\$1 75 per 1,000	Meters.
Gloucester City.....	Hudson.....		Town.....	Hackensack river.....	365,000	Reservoir.....	80	1,473	1 75 per 1,000	Meters.
Guttenberg.....	Bergen.....		Town.....	Mountain stream.....						
Hackensack.....	Warren.....		Private company.....	Stream.....	200,000	Reservoir.....	28-50	625	\$3 75 per 1,000	Meters.
Hackettstown.....	Camden.....	1886.	Town.....	Artesian wells.....		Standpipe.....	48			
Haddonfield.....	Atlantic.....	1903.	City.....	Same as Jersey City.....	783,000	Reservoir.....	90	1,080	\$1 15 per 1,000	Only meters.
Hammonton.....	Hudson.....	1886.	Hackensack W. Co.....	Hackensack river.....	78,540	Direct.....	30	314	1 75 per 1,000	Meters.
Harrison.....	Bergen.....									
Hastbrouck Heights.....	Bergen.....									

TABLE 1.—SHOWING LOCALITIES IN NEW JERSEY HAVING PUBLIC WATER-SUPPLIES, WITH CERTAIN DATA IN REFERENCE TO SOURCE OF SUPPLY, ETC.—Continued.

NAME OF PLACE.	County.	Date of Intro- duction.	Ownership.	Source of supply.	Daily con- sumption— gallons.	Standpipe or reservoir.	Pressure— pounds.	Number of taps.	Meter rates per 1,000 cubic feet.	Rates where meter not used.
Helmetta	Middlesex	1884.	Private company	Pond and wells	20,000	Tank	40	18		
Highlands, Navesink	Monmouth	1886.	Private company	Springs and wells						
Hightstown	Monmouth	1886.	Private company	Artesian wells						
Hoboken	Mercer	1865.	Borough	Hackensack river	5,500,000	Reservoir	65	4,652	\$1 35 per 1,000	Meters.
Holly Beach	Hudson	1865.	City	Hackensack river						
Hopewell	Mercer	1891.	Private	Springs	3,000	Reservoir	8	70	\$1 00 per 1,000	Schedule.
Irrington	Essex	1894.	Private	From Newark	30,000,000	Reservoir	38	25,000	\$1 35 per 1,000	Schedule.
Jersey City	Hudson	1882.	City	Rockaway river	125,000	Reservoir	65-150	80		Schedule.
Junon	Hunterdon	1898.	Private	Springs	472,000	Direct	60	1,603	\$1 50 per 1,000	Schedule.
Kearny	Hudson	1887.	Township	From Jersey City	150,000	Standpipe	60	540	2 25 per 1,000	Schedule.
Keyport	Monmouth	1893.	Town	Artesian filters						
Lakewood	Ocean	1886.	Private	Metedeconk creek						
Lambertville	Hunterdon	1878.	Private	Swan creek filter						
Leonia	Bergen		Hackensack W. Co.	Hackensack river	31,000	Direct	80	128	\$1 75 per 1,000	Meters.
Little Ferry	Bergen		Hackensack W. Co.	Hackensack river	1,540	Direct	80	6	1 75 per 1,000	Meters.
Little York	Hunterdon		Hackensack W. Co.	Springs						
Lodi	Bergen	1877.	Private	Hackensack river	4,250	Direct	60	17	\$1 75 per 1,000	Meters.
Long Branch	Monmouth	1885.	Hackensack W. Co.	Brook filters						
Longport	Atlantic	1894.	Private	Hackensack river						
Lorraine	Union	1890.	Borough	Wells at Plainfield	250,000	Borough	85	635	20 cts per 1,000	Schedule.
Madison	Morris			Flowing wells						
Manasquan	Hurlington	1894.	Private company	Well						
Maple Shade	Essex									
Maplewood	Essex									
Matawan	Monmouth									
Maywood	Bergen		Hackensack W. Co.	Hackensack river	15,750	Direct	55	108	\$1 75 per 1,000	Meters.
Medford	Hurlington	1895.	Private company	Creek	50,000	Standpipe	45	200		Schedule.
Merchantville	Camden	1887.	Private company	Stream						
Metuchen	Middlesex	1897.	Private company	Driven wells, S. Plainfield						
Midland	Bergen		Private company	Hackensack river						
Millburn	Essex									
Millville	Cumberland	1878.	Private company	Wells	750,000	Standpipe	45	820	\$2 25 per 1,000	Schedule.
Monmouth Beach	Monmouth			See Long Branch	1,200,000	Standpipe	45-150	2,400	\$2 25 per 1,000	All meters.
Montclair	Essex	1887.	Private company	Pequanock	400,000	Standpipe	45	440	1 90 per 1,000	Schedule.
Moorestown	Burlington	1888.	Private company	Springs and creek						

TABLE 1.—SHOWING LOCALITIES IN NEW JERSEY HAVING PUBLIC WATER-SUPPLIES, WITH CERTAIN DATA IN REFERENCE TO SOURCE OF SUPPLY, ETC.—*Continued.*

NAME OF PLACE.	County.	Date of Intro- duction.	Ownership.	Source of supply.	Daily con- sumption— gallons.	Standpipe or reservoir.	Pressure— pounds.	Number of taps.	Meter rates per 1,000 cubic feet.	Rates where meter not used.
Morristown.....	Morris.....	1799.	Private company....	Springs.....	.....	Reservoir.....	30-55	.....	.....	.....
Mount Holly.....	Burlington.....	1846.	Private company....	Rancocas creek.....	500,000	{ Reservoir —filters	35	2,500	\$1.50 per 1,000	Schedule.
Mount Tabor.....	Morris.....	1876.	Borough.....	Springs and wells.....	60,000	Reservoir.....	28	225	No meters.....	Schedule.
Neptune City.....	Essex.....	1800 to 1889.	{ City.....	Pepunnock.....	.....	Reservoir.....	80	.....	.....	.....
Newark.....	Essex.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
New Barbadoes.....	Bergen.....	1865.	City.....	Hackensack river.....	2,000,000	Reservoir.....	18-55	3,336	\$1.00 per 1,000	Schedule.
New Brunswick.....	Bergen.....	1901.	Private company....	Hackensack river.....	.....	Reservoir.....	75-150	.....	No meters.....	Schedule.
New Milford.....	Union.....	1895.	Town.....	Morris lake.....	.....	Reservoir.....	60	975	\$1.75 per 1,000	Meters.
New Providence.....	Sussex.....	.....	Hackensack W. Co.....	Hackensack river.....	250,000	Direct.....	.....	.....	.....	.....
Newton.....	Hudson.....	.....	Private.....	Wells in Plainfield.....	65,000	Gravity.....	110	360	.....	.....
North Bergen.....	Somerset.....	1889.	Township.....	East Jersey Co.....	250,000	Standpipe.....	50	925	.....	.....
North Plainfield.....	Essex.....	1893.	Private company....	Artesian.....	.....	.....	35	.....	.....	.....
Nutley.....	Essex.....	1884.	City.....	Rahway river.....	.....	Reservoirs.....	.....	.....	.....	.....
Ocean City.....	Cape May.....	.....	Hackensack W. Co.....	Hackensack river.....	87,000	Direct.....	60	348	\$1.75 per 1,000	Meters.
Ocean Grove.....	Mumouth.....	1883.	Private.....	Hackensack river.....	15,000	Direct.....	80	59	1.75 per 1,000	Meters.
Orange.....	Essex.....	.....	City.....	From Riverton well.....	300,000	Standpipe.....	20-55	400	.....	Schedule.
Overpeck Township.....	Bergen.....	.....	Private company....	Passaic river.....	12,000,000	Reservoir.....	20-80	12,000	.....	.....
Palisades Park.....	Burlington.....	1872.	City.....	Passaic river.....	20,000	Reservoir.....	20	120	No meters.....	Schedule.
Palmira.....	Passaic.....	1856.	Private company....	Well.....	250,000	Reservoir.....	40-70	1,800	{ \$0.50-\$1.90 per 1,000.	{ Schedule.
Passaic City.....	Passaic.....	1894.	Private company....	Tennant's brook.....	1,200,000	Reservoir.....	112	1,400	.....	.....
Pemberton.....	Burlington.....	1886.	Private.....	Well near Delaware.....	15,000	Reservoir.....	45	85	\$3.75 per 1,000	Schedule.
Pennington.....	Mercer.....	.....	City.....	Deep wells.....	1,850,000	Standpipe.....	74	2,660	1.50 per 1,000	Schedule.
Perth Amboy.....	Middlesex.....	1882.	Private company....	Wells.....	165,000	Standpipe.....	50	612	.....	.....
Phillipsburg.....	Warren.....	1887.	Association.....	Rahway river.....	150,000	Reservoir.....	55	1,210	\$3.00 per 1,000	Schedule.
Pitman Grove.....	Gloucester.....	1901.	Private company....	Raritan river.....	500,000	Standpipe.....	77	309	8.00 per 1,000	Schedule.
Plainfield.....	Union.....	1891.	Private company....	Artesian wells.....	.....	.....	45	.....	.....	.....
Princeton.....	Mercer.....	1883.	Private company....	.....	.....	.....	.....	.....	.....	.....
Prospect Park.....	Union.....	1871.	City.....	.....	.....	.....	.....	.....	.....	.....
Rahway.....	Somerset.....	1881.	Private company....	.....	.....	.....	.....	.....	.....	.....
Raritan.....	Mumouth.....	1885.	Town.....	.....	.....	.....	.....	.....	.....	.....
Red Bank.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

TABLE 1.—SHOWING LOCALITIES IN NEW JERSEY HAVING PUBLIC WATER-SUPPLIES, WITH CERTAIN DATA IN REFERENCE TO SOURCE OF SUPPLY, ETC.—Continued.

NAME OF PLACE.	County.	Date of Intro- duction.	Ownership.	Source of supply.	Daily con- sumption— gallons.	Standpipe or reservoir.	Pressure— pounds.	Number of taps.	Water rates per 1,000 cubic feet.	Rates where meter not used.
Ridgefield Borough.....	Bergen.....	.....	Hackensack W. Co.....	Hackensack river.....	25,000.....	Direct.....	.....	98	\$1 75 per 1,000 Meters.	Meters.
Ridgefield Township.....	Bergen.....	.....	Hackensack W. Co.....	Hackensack river.....	26,750.....	Direct.....	.....	107	1 75 per 1,000 Meters.	Meters.
Ridgewood.....	Bergen.....	.....	Hackensack W. Co.....	Hackensack river.....	19,000.....	Direct.....	.....	80	\$1 75 per 1,000 Meters.	Meters.
Riverside.....	Burlington.....	.....	Private company.....	Wells.....	300,000.....	Standpipe.....	20-55.....	452	.....	Schedule.
Riverton.....	Burlington.....	1889.....	Private company.....	Brook.....	.....	Reservoir.....	180.....	78	.....	Schedule.
Rockaway.....	Morris.....	1897.....	Private company.....	.....	.....	.....	.....	.....	.....	.....
Roselle.....	Union.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Roselle Park.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Rutherford.....	Bergen.....	.....	Hackensack W. Co.....	Hackensack river.....	380,000.....	Direct.....	.....	949	\$1 75 per 1,000 Meters.	Meters.
Salem City.....	Salem.....	1882.....	City.....	Artesian.....	600,000.....	Standpipe.....	.....	35	No meters.....	Schedule.
Seabright.....	Monmouth.....	1882.....	Private.....	From Long Branch.....	.....	Standpipe.....	.....	60	.....	Schedule.
Sea Isle City.....	Cape May.....	1895.....	Private company.....	Artesian.....	30,000.....	Standpipe.....	.....	30	\$2 00 per 1,000 Meters.	Schedule.
Seaucus.....	Hudson.....	.....	Hackensack W. Co.....	Hackensack river.....	53,500.....	Direct.....	.....	55	1 75 per 1,000 Meters.	Meters.
Seawaren.....	Middlesex.....	1897.....	Private company.....	Wells, South Plainfield.....	.....	Standpipe.....	55-105.....	60	1 00 per 1,000 Meters.	Schedule.
Shrewsbury.....	Monmouth.....	.....	Private.....	Brook.....	.....	Standpipe.....	.....	60	.....	Schedule.
Somerville.....	Somerset.....	1882.....	Private company.....	Raritan river. Filters.....	500,000.....	Standpipe.....	.....	45	600 \$3 00 per 1,000 Meters.	Schedule.
South Amboy.....	Middlesex.....	1894.....	Borough.....	Tennant's brook.....	75,000.....	Standpipe.....	.....	60	575.....	Schedule.
South Atlantic City.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
South Orange.....	Essex.....	1899.....	Village.....	From wells.....	168,500.....	Standpipe.....	120.....	682	\$3 00 per 1,000 Meters.	Schedule.
South Plainfield.....	Middlesex.....	1897.....	Private company.....	Wells at South Plainfield.....	.....	Standpipe.....	55-105.....	.....	1 00 per 1,000.....	Schedule.
Spring Lake.....	Ocean.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Summit.....	Union.....	1889.....	Private company.....	Wells.....	.....	.....	50-90.....	.....	.....	.....
Sussex.....	Sussex.....	1896.....	Borough.....	Lake Rutherford.....	40,000.....	Reservoir.....	125.....	254	\$1 35 per 1,000 Meters.	Schedule.
Swedesboro.....	Salem.....	1901.....	Private.....	Wells.....	2,800.....	Standpipe.....	70.....	90	40 cts per 1,000 Meters.	Schedule.
Teaneck Township.....	Bergen.....	.....	Hackensack W. Co.....	Hackensack river.....	54,500.....	Direct.....	.....	60	\$1 75 per 1,000 Meters.	Meters.
Tenally.....	Bergen.....	.....	Hackensack W. Co.....	Hackensack river.....	66,000.....	Direct.....	.....	55	1 75 per 1,000 Meters.	Meters.
Toms River.....	Ocean.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Trenton.....	Mercer.....	1855.....	City.....	Delaware river.....	.....	.....	22-40.....	.....	.....	.....
Tuckerton.....	Ocean.....	1898.....	Private company.....	Lake.....	30,000.....	Tank.....	36.....	169	\$3 00 per 1,000 Meters.	Schedule.
Union.....	Hudson.....	.....	Hackensack W. Co.....	Hackensack river.....	50,000.....	Reservoir.....	60.....	1,829	1 75 per 1,000 Meters.	Schedule.
Vailsboro.....	.....	.....	.....	From South Orange.....	.....	.....	.....	.....	.....	.....
Vincentown.....	Essex.....	1896.....	Private company.....	Rancocas creek.....	.....	.....	40-65.....	.....	.....	.....
Vineland.....	Burlington.....	1886.....	City.....	Driven wells.....	800,000.....	Standpipe.....	60.....	1,300	\$1 90 per 1,000 Meters.	Schedule.
Wallington.....	Cumberland.....	.....	Hackensack W. Co.....	Hackensack river.....	2,750.....	Direct.....	80.....	11	1 75 per 1,000 Meters.	Meters.
Washington.....	Warren.....	1882.....	Private company.....	Stream.....	.....	Reservoir.....	60.....	460	.....	Schedule.

TABLE 1.—SHOWING LOCALITIES IN NEW JERSEY HAVING PUBLIC WATER-SUPPLIES, WITH CERTAIN DATA IN REFERENCE TO SOURCE OF SUPPLY, ETC.—*Continued.*

NAME OF PLACE.	County.	Date of introduction.	Ownership.	Source of supply.	Daily consumption—gallons.	Standpipe or reservoir.	Pressure—pounds.	Number of taps.	Meter rates per 1,000 cubic feet.	Rates where meter not used.
Weehawken	Hudson .....	.....	Hackensack W. Co.	Hackensack river	453,000	Reservoir	60	906	\$1 75 per 1,000	Meters.
Wenonah	Gloucester	1885	Private company	Spring at Plainfield. ....	.....	Standpipe	30 .....	.....	.....	.....
Westfield	Union	1893	Private company	Wells at Plainfield. ....	.....	Standpipe .....	.....	.....	.....	.....
West Cape May	Camden	1901	From Camden	See Camden .....	.....	Standpipe	31 .....	.....	.....	.....
West Lynn	Hudson .....	.....	Private	Hackensack river	695,000	Reservoir	60	2,768	\$1 75 per 1,000	Meters.
West Hoboken	Hudson .....	.....	Hackensack W. Co.	Hackensack river	154,000	Reservoir	60	616	1 75 per 1,000	Meters.
West New York	Essex .....	.....	Hackensack Co.	Spring	30,000	Tank	45	120	1 75 per 1,000	Meters.
West Orange	Bergen	1894	Private company	Artesian .....	.....	Standpipe	40 .....	.....	.....	.....
Wildwood	Camden .....	.....	Private company	Wells at South Plainfield. ....	.....	Standpipe	105 .....	.....	\$1 00 per 1,000	Schedule.
Woodbridge	Middlesex	1897	Private company	Manlius creek	400,000	Reservoir	45	875 .....	.....	Schedule.
Woodbury	Gloucester	1886	Village	Hackensack river	16,000	Direct	40	62	\$1 75 per 1,000	Meters.
Wood Ridge	Bergen .....	.....	Hackensack W. Co.	Artesian .....	.....	Standpipe	55 .....	.....	.....	.....
Woodstown	Salem	1892	Private company .....	.....	.....	.....	.....	.....	.....	.....

Legal Decisions and Opinions.

COUNCIL MUST ACT ON NOMINATIONS TO BOARD OF HEALTH.

In the case of the State on the relation of *Hoell et al. v. City Council of the City of Camden*, the Supreme Court of New Jersey says that members of the board of health of the city of Camden are appointed on nomination of the mayor, confirmed by the city council. The mayor made nominations to fill two alleged vacancies. The council declined to act, on the theory that no vacancies existed, the offices being in possession of persons claiming unexpired title thereto. There appeared a fair ground of contention that vacancies did exist. The court holds that it was the duty of the council in good faith to act upon the pending nominations, and others that might be made, in case of rejection, so that, upon confirmation, it would be possible to test the right to the offices by *quo warranto* proceedings.

POLLUTION OF STREAMS—INJUNCTION.

In Chancery of New Jersey, between the State, *ex rel.* The Board of Health of the State of New Jersey, complainant, and the Diamond Mills Paper Company, defendant. Final decree filed April 11th, 1902.

This cause coming on to be heard in the presence of William M. Lanning, of counsel with the relator, and John O. H. Pitney, of counsel with the defendant, and the pleadings and proofs having been read and the arguments of the respective counsel having been heard and considered, and the court having duly considered the said pleadings, proofs and arguments, and it appearing to the court that the State of New Jersey, at the relation of the Board of Health of the State of New Jersey, is entitled to the relief sought

and prayed for in the bill of complaint filed in this cause, it is, on this eleventh day of April, in the year of our Lord nineteen hundred and two, on motion of William M. Lanning, of counsel with the relator, the Board of Health of the State of New Jersey, by the Chancellor of the State of New Jersey, ordered, adjudged and decreed, and the said Chancellor, by virtue of the power and authority of this court, doth hereby order, adjudge and decree, that an injunction do issue restraining the defendant, the Diamond Mills Paper Company, and each and every of its agents, servants and employes, from placing in or discharging into the waters of the Rahway river, in the State of New Jersey, any sewage, drainage or factory refuse of any kind or character from its factory, located in the township of Millburn, in the county of Essex, in the State of New Jersey, which, either by itself or in connection with any other matter, will corrupt or impair, or tend to corrupt or impair, the quality of the water of said river, or which will render, or tend to render, the water of said river injurious to health.

And it is further ordered, adjudged and decreed that the defendant pay to the relator its costs of suit in this cause to be taxed, and that execution issue therefor according to the practice of this court.

And it is further ordered that in case of a material change in the circumstances as they now exist, the defendants may apply for a modification of this injunction or such other relief as they may be entitled to.

And it is further ordered that the issuing of the injunction hereinabove authorized be stayed until the second day of the next ensuing term of the Court of Errors and Appeals of this State.

Respectfully advised,

FREDERIC W. STEVENS, V. C.

An appeal was taken by the defendant in this case, and the following brief of W. M. Lanning was filed for the respondent:

By the bill filed in this cause the Board of Health of the State of New Jersey prayed for an injunction to restrain the Diamond Mills Paper Company from continuing to discharge the liquid waste from its factory into the Rahway river above the point from

which Rahway city draws its supply of potable water. The Court of Chancery, by its decree, directed such injunction to issue. From that decree the paper company has appealed.

There are practically no disputed facts in the case. The learned counsel for the paper company says that the State Board of Health has no legal right to the injunction, whether the allegations of the bill be true or untrue. I shall follow his lead, therefore, and discuss, first, the law of the case.

The essential allegations of the bill are that Rahway city obtains its supply of water for domestic use from the Rahway river, and that the paper company discharges into that river, above the city's intake, factory refuse which tends to corrupt and impair, and, in fact, does corrupt and impair, the quality of the water of the river. There is no allegation that the act of the paper company creates a public nuisance, nor is there any proof that the waters of the river are rendered injurious to health at the point of the city's intake by reason of the paper company's act.

The supposed authority for the injunction is found solely in chapter 41 of the laws of 1899. That act, in its first section, declares that "no * * * factory refuse * * * which, either by itself or in connection with other matter, will corrupt or impair, or tend to corrupt or impair, the quality of the water of any river * * * from which is taken, or may be taken, any public supply of water for domestic use, in any city * * * shall be discharged into the waters * * * of any such river * * * above the point from which any city * * * shall or may obtain its supply of water for domestic use * * * ." A penalty of \$100 is prescribed for violation of this section.

The second section provides the machinery for recovering the penalty in a summary proceeding.

The third section imposes upon the State Board of Health the obligation of supervising, as to their purity, all public water-supplies for domestic use within the State, and makes it the duty of all local boards of health, municipalities and persons to answer such inquiries concerning the pollution of water-supplies as the State board may address to them.

Then comes the fourth section, which declares that "if any * * * corporation * * * shall violate any of the provisions of the first section of this act it shall be lawful for the said State

Board of Health, instead of proceeding in a summary way to recover the penalty prescribed in said section, to file a bill in the Court of Chancery, in the name of the State, on the relation of such Board, for an injunction to prohibit the further violation of the said section * * * .”

Object of the Act.

The object of the act, as expressed in its title, is “to secure the purity of the public supplies of potable waters in this State.” Such an object calls for the exercise of police power of the State, and in the exercise of that power the State has declared that no factory refuse which will corrupt or impair, or tend to corrupt or impair, the quality of the water of any river used by any municipality for domestic purposes, shall be discharged into the river above the intake of such municipality.

The prohibitions of the act are not merely against doing those things that make public water-supplies injurious to health; they are also against those things that in any way corrupt or impair, or *tend* to corrupt or impair, the quality of the water of any river at any point, though it be miles above the intake of any municipality. It is not for the courts to decide whether such legislation is necessary or unnecessary, wise or unwise. They can only decide whether it is constitutional or unconstitutional. Whether it is a necessary or wise exercise of police power is a question for the Legislature, and for it alone to decide. The legislative object being clear, and the legislative act being constitutional, the courts, when their aid is sought, in accordance with the prescribed legislative plant, are bound to give effect to the legislative object.

“In virtue of its right and duty to provide for the public welfare, the legislative branch of the government possesses a vast and indefinable power and a large discretion as to the manner in which it should be exercised. It may determine primarily upon the necessity or expediency of legislation in respect of any particular matter, and as to the legislative means which should be adopted to accomplish any legislative object.” *Parker & Worthington's Public Health and Safety*, p. 5.

In *State v. Wheeler*, 15 Vr. 88, the validity of the act contained in *Gen. Stat.*, p. 1107, sec. 311, was passed upon by the Supreme

Court, the opinion being rendered by Justice Magie. That act provides "that if any person or persons shall throw, cause, or permit to be thrown into any reservoir, or into the waters of any creek, pond or brook of this State * * * the waters of which are used to supply any aqueduct or reservoir for distribution for public use, * * * any offal or offensive matter whatsoever, calculated to render such waters impure, * * * such person or persons shall be deemed guilty of a misdemeanor, and on conviction thereof shall be punished by a fine not exceeding one thousand dollars, or by imprisonment not exceeding two years, or both." The defendants were indicted under the above act. The offer was made in the trial court to prove that the waters of the brook in which offensive matters were charged to have been put by the defendant became purified and inoffensive before reaching the reservoir of which its waters formed part of the supply. Such evidence was rejected, and the rejection excepted to. The defendants also requested the court to charge the jury that "unless their acts were calculated to render the water as supplied to such reservoir impure or offensive, they could not be convicted." The court refused so to charge, but, on the contrary, charged "that it was immaterial whether the offensive matter put in the brook actually affected the water in the reservoir or not." It was objected by the defendants' counsel in the Supreme Court, on a writ of error, that the trial court erred in the respects above mentioned, and that, if the construction given to the act was a correct one, the act deprives an owner of property of its use without compensation, and so is unconstitutional. Justice Magie said: "I entertain no doubt that the court below, in the rulings above referred to, correctly construed this act. The question turns on the meaning and relation of this clause: 'Calculated to render said waters impure.' What 'waters' are thereby intended—those of the reservoir, where waters are collected for distribution for public use, or those of the creek, pond or brook, the waters of which supply such reservoir? The grammatical connection of the clause is only consistent with the latter meaning. The other portions of the act unmistakably indicate that such was the meaning intended by the Legislature. The section above quoted makes punishable the mere connection of a water-closet with the waters of such creek, &c., whereby its contents may be discharged therein, without reference to whether

the waters of the reservoir were thereby polluted. So it punishes the deposit of offensive matters where they may waste into the waters of such creek, &c. * * * The title of the act is inconsistent with any limited construction. The whole act plainly shows a design to protect from pollution the waters of creeks, &c., used as the feeders for reservoirs for public use, without any reference to whether such pollution in fact appreciably affects the waters when arrived at the reservoir." Justice Magie then proceeded to say that such construction of the act does not render it contrary to the provisions of the constitution. He declares it to be a proper regulation of the use of private property for the protection of the common right of the citizens of the State, and that such legislative acts are plainly within the police power of the Legislature, which power is the mere application to the whole community of the maxim "*sic utere tuo, ut alienum non ledas.*" Further on in the case Justice Magie also says: "Nor is there anything to render such legislation objectionable, because in some instances it may restrain the profitable use of private property, when such use in fact does not directly injure the public in comfort or health. For to limit such legislation to cases where actual injury has occurred would be to deprive it of its most effective force. Its design is preventive, and to be effective it must be able to restrain acts which tend to produce public injury. Many instances of such an exercise of this power can be found. The State regulates the use of property in intoxicating liquors by restraining their sale, not on the ground that each particular sale does injury, for then the sale would be prohibited, but for the reason that their unrestricted sale tends to injure the public morals and comfort. The State is not bound to wait until contagion is communicated from a hospital established in the heart of a city; it may prohibit the establishment of such a hospital there, because it is likely to spread contagion. So the keeping of dangerous explosives and inflammable substances and the erection of buildings of combustible materials within the limits of a dense population may be prohibited, because of the probability or possibility of public injury. Such instances might be indefinitely multiplied, but these are sufficient to illustrate this case. The object of this legislation is to protect the public comfort and health. For that purpose the Legislature may restrain any use of private property

which tends to the injury of those public interests. That the pollution of the sources of the public water-supply does so tend no one will deny."

See, also, *New Hampshire v. Griffin*, 41 *Lawyers' Rep. annotated*, 177; *Mugger v. Kansas*, 123 *U. S.* 623; *Watertown v. Mayo*, 109 *Mass.* 318.

How the Object is Secured.

The object of the legislative act is sought to be secured by its prohibitions. Citizens are presumed to have due regard for those prohibitions and to be law-abiding. If any of them violate the law by doing any of the prohibited acts, he may be prosecuted in a summary proceeding for the penalty of \$100 prescribed in the act. Or, if the State Board of Health prefer so to do, instead of proceeding in a summary way to recover the penalty, it may apply to the Court of Chancery for an injunction "to prohibit the further violation" of the act. Such application must be by a bill of complaint filed in the name of the State on its relation.

It will be observed that the State Board of Health is a public body, having imposed upon it only public duties, being invested with only public powers, and exercising only public functions. It has no private rights.

It will be observed, further, that it is the chosen agent of the State for the enforcement of certain of its police powers.

It will be observed, again, that the bill of complaint which it is authorized to file in the Court of Chancery is not to be filed in *its* name for the enforcement of any of *its* powers. It is to be filed in the name of the *State* and for the enforcement of the powers of the *State*.

What, then, when such a bill is filed, is the duty imposed upon the Court of Chancery?

It is not the same as when a bill for injunction is filed by a *private party*. No private party is entitled to an injunction unless he proves that he is sustaining, or is about to sustain, substantial injury. But when the State, through the instrumentality of a grand jury, indicts a man for violating its criminal law against discharging into a stream any offensive matter calculated to render its waters impure, there is no obligation on the part of the State to

prove on the trial of the indictment that substantial injury has been done by the defendant. Nor can a defence of no substantial injury be set up. This is settled, for our State at least, by *State v. Wheeler, supra*. And so, when the State, through the instrumentality of its State Board of Health, seeks in a summary proceeding to recover the penalty mentioned in the act now under review, it is not necessary to show substantial injury or actual harm to health by the defendant's act. And so, again, when the State, through the instrumentality of its State Board of Health, files a bill in the Court of Chancery for an injunction to prohibit the continuance of an act which the Legislature has declared unlawful, it is not necessary to show that the act is positively, at the time of applying for the injunction, injurious to health. All that need be shown is that the defendant is doing the condemned act. The principal that is to guide the court in every such case is the same as where the State, through the instrumentality of its Attorney-General, applies for an injunction. I refer to some cases which illustrate the principle.

In *Attorney-General v. Cockermouth Local Board*, 19 *Eq. Cas. (L. B.)* 172, Sir G. Jessel, Master of the Rolls, said: "The defendants in this case are a public body authorized by act of Parliament to construct sewage works so that they shall not be a nuisance. Under the powers originally conferred on them, they could not make outfall works outside their district, but a subsequent act of Parliament enabled them to go outside their district; that is to say, they may now take people's lands, and so on, and do what certainly is very likely to be unpleasant to the inhabitants of another district which is not benefited by the works. But these powers are subject to this proviso." [His Honor read section 4 of the Local Government act, Amendment act 1861, which is as follows: "Local boards may exercise the powers given by the forty-fifth section of 'the Public Health act 1848,' also without their district, for the purpose of outfall or distribution of sewage, upon making due compensation, to be settled in the manner provided in the one hundred and forty-fourth section of 'the Public Health act, 1848;'" provided, always, that nothing herein contained shall give, or be construed to give, powers to any local board to construct or use any outfall drain or sewer for the purpose of conveying sewage or filthy water into any natural water-course or

stream until such sewage or filthy or refuse water be freed from all excrementitious or other foul or noxious matter, such as would effect or deteriorate the purity and quality of the water in such stream or water-course.”] “I do not mean to say that clause might not by possibility have been better drawn or expressed, but I think the meaning is pretty plain, and it means this: ‘You shall not send your sewage into a natural stream until you have made it wholesome water—until you have got rid of all the noxious matter in it.’ That, I think, is the effect of the clause, and if that is the meaning, the next point is what water is it that is not to be affected or deteriorated? You are not to affect or deteriorate the water in the river—what portion of the water? I cannot accede to the argument of the defendants that it merely means that you must not poison the whole river, for a river may be hundreds of miles long. I think it must mean that you are not to affect or deteriorate the water in the river at the point where the outfall is; and that if you at that point pollute the water, you shall not enjoy the privilege given you by this act of Parliament of making an outfall outside your district. The act gives you this privilege, and gives it on these terms. * * * Then this is an information by the Attorney-General against a public body to enforce the terms of a public act of Parliament. Now, if I understand the law upon this subject, it is not necessary for the Attorney-General to show any injury at all. The Legislature is of the opinion that certain acts will produce injury, and that is enough. The case I have already referred to of the *Attorney-General v. Oxford, Worcester and Wolverhampton Railway Company* is in point. There the Attorney-General would not even answer the affidavits of the defendants to show there was no injury caused by the proceedings they were adopting. The Legislature is of opinion that it is desirable to preserve our natural streams in at least their present state of purity; it therefore has said that you shall not affect or deteriorate the water at all, and that the court must assume that the deterioration of the water is an injury which is prohibited by the Legislature for good and sufficient cause.

“Again, if I look at the evidence in the case, I can see very good reason for the course adopted by the Legislature. We had the evidence of scientific men to this effect, that there is always a probability of danger when sewage matter is thrown into a

stream, because people may drink of that stream, and if any epidemic disease is prevalent in a town from which the sewage matter proceeds, that disease may be communicated to the inhabitants of another by the water. Well, that alone would be sufficient justification for the Legislature, if it entertained that opinion, inserting this enactment in the act of Parliament. That being so, I think I am bound, as regards the information, to grant an injunction to restrain the defendants from infringing the provisions of the act of Parliament.

"The bill stands upon a totally different footing. It is a bill by the Local Board of Workington alleging nuisance committed by the defendants. Now, I must say I cannot find any evidence of nuisance caused by the defendants' acts. The sewage is thrown into the river in comparatively small quantities at a distance of eight or nine miles from the town of Workington. The water has been carefully analyzed at the intake of Workington, and no trace of the sewage can be discovered; that is to say, from some cause or other, that which was polluted water at or near the outfall has ceased to be polluted water by the time it arrives at Workington. That I take to be the effect of the evidence, and if the plaintiff board can only sue on the ground of nuisance, and they cannot prove nuisance, it follows that their bill must be dismissed."

In *Attorney-General v. Shrewsbury Bridge Co.*, 21 Ch. Div. 752, and 1 Eng. Rul. Cas. 567, the Attorney-General, at the relation of two shareholders in the defendant company, and by two shareholders as plaintiffs, claimed an injunction to restrain the company from proceeding with their works. Fry, J., said: "The question which has been mainly argued is this: Had the Attorney-General a right under the circumstances to intervene without showing substantial injury to the public? It appears to me there is a conflict of authority on this point, or rather some want of uniformity in the various authorities. But before considering the authorities I will make this observation. This is clearly a case in which the defendant company without any power (for their powers had come to an end) thought it fit to do certain acts which undoubtedly tended in their nature to interfere with public rights and so tended to injure the public. The question is whether under such circumstances the Attorney-General is justified in interfering, though there is no evidence of actual injury

to the public. In my judgment he is entitled to do so, and the court is bound to attend to his interference. One of the English cases on the subject is *Attorney-General v. Oxford, Worcester and Wolverhampton Railway Co.* There, at the instance of the Attorney-General, the court restrained the opening of a railway not authorized by the Board of Trade, and Lord Romilly, M. R., said that the view he took of the case was this: that undoubtedly the Attorney-General might apply to the court in case of a nuisance. It was properly said on the other side that in all such cases the court required that the nuisance should be proved. But he was also of the opinion that the Attorney-General, as *parens patriæ*, might apply to the court to restrain the execution of an illegal act of a public nature, provided it was established that the act was illegal and it affected the public generally. Again, in *Attorney-General v. Cockermouth Local Board*, Jessel, M. R., refused to grant an injunction on the bill because he came to the conclusion that there was no evidence of any nuisance resulting to the plaintiffs from the defendant's acts. Nevertheless, at the instance of the Attorney-General, he granted an injunction to restrain the defendants from polluting the water of the river, because that was expressly prohibited by the act of Parliament. There, as in the present case, there was no evidence of any actual injury, but there was evidence that the defendants were doing certain illegal acts which tended in their nature to injure the public, and accordingly the injunction was granted, with costs. In the more recent case of *Attorney-General v. Great Eastern Railway Co.*, the learned Lords Justices appear to have differed somewhat in their opinions. If they had expressed any decided view affecting the present case I need not say that I should have followed it. But having regard to that difference of opinion, it appears to me that that case furnishes no distinct guide to me. But when I examine the judgment of Lord Justice James, who was most adverse to the rights of the Attorney-General, I think that even according to his view the present action would be maintained, for, commenting on *Attorney-General v. Cockermouth Local Board*, he said: 'The board were doing works which would or might probably poison a running stream, in direct violation of the law which prohibited them from committing a nuisance.' Just as there, the acts which restrained without proof of injury were acts which in their nature tended to injure the public,

so, in the present case, the acts which the Attorney-General sought to restrain were in their nature such as tended to injure the public. In coming, therefore, to the conclusion that this action can be maintained without proof of actual injury to the public, I think I am acting in accordance with the view of Lord Justice James. There is, moreover, the authority of Lord Hatherly in *Attorney-General v. Ely, Haddenham and Sutton Railway Co.* He said: 'The question is whether what has been done has been done in accordance with the law, if not, the Attorney-General strictly represents the whole of the public in saying that the law shall be observed.' Here the law has been broken in a manner tending to injure the public, and, in my judgment, the relators are entitled to costs. The costs have not been increased by adding the relators as plaintiffs, and I shall allow the whole of the costs now in dispute."

See, also, *London Association of Ship Owners and Brokers v. London and India Docks Joint Committee*, 1892, vol. 3 (L. R.), p. 270.

This case differs from *Newark Aqueduct Board v. Passaic*, 18 Stew. 406, where an injunction was sought to restrain what appeared to be a prospective injury. The bill in that case had no such legislative authority as the bill in this case.

The provision authorizing the State Board of Health to file the bill in this case is similar to the provision contained in *Gen. Stat.*, p. 1646, sec. 62, which has been sustained as valid legislation. See *State v. Jersey City*, 10 Dick. 116; same case affirmed, *Ib.* 591.

The means authorized to be adopted under the health laws for the protection of health are *preventive* rather than *punitive*. That fact must never be lost sight of in construing legislation like that under which the bill in this case has been filed.

As was said by Justice Knapp for the Supreme Court in *Garrett v. State*, 20 Vr. 103, the "purpose which the Legislature had in view in creating boards of health was to supply additional means to *prevent* disease and discomfort, such as might arise from contamination of air, water and food."

Having now considered the object of the act under review, and the means provided in the act for securing its object, I proceed to consider the objections to the legislation raised by the appellant's counsel.

I.

The first point made by the appellant is that "the jurisdiction of the Court of Chancery to prevent by injunction the pollution of water rests solely on its jurisdiction to abate nuisances, public or private." "The cases," says the appellant, "clearly show that there is no inherent jurisdiction in a court of equity to restrain the discharging into a river of foreign substances not proven to be a nuisance—that is, injurious to the health or comfort of the public or individuals." In support of this statement he cites cases dealing with public nuisances under the well-known equity rule, independent of statutory provisions, that equity will not enjoin a public nuisance if there is adequate redress by indictment or in the common law courts.

His general statement of the doctrine is correct. But in his application of the doctrine to this particular case it is submitted he is wrong. In this case *the statute of 1899* has prescribed a rule of public duty. If the defendant persists in violating that rule he may be enjoined from so doing by a court of equity. A court of equity has inherent power to restrain any wrongful act whatever, provided there be no adequate redress at law. Professor Pomeroy, in *3 Pom Eq. Jur.*, sec. 1338, well states the principle in reference to issuing injunctions thus: "Wherever a right exists or is created by contract, by the ownership of property, or otherwise, cognizable by law, *a violation of that right will be prohibited*, unless there are other considerations of policy or expediency which forbid a resort to this prohibitive remedy. *The restraining power of equity extends, therefore, through the whole range of rights and duties which are recognized by the law, and would be applied to every case of intended violation were it not for certain reasons of expediency and policy which control and limit its exercise.*" There is no reason of expediency or policy forbidding an injunction in such a case as the one now in hand.

II.

The second point made by the appellant is that the act of 1899 does not confer upon the Court of Chancery the power to grant injunction in such a case as this.

The respondent asserts that it does.

The respondent, however, does not claim, as the appellant asserts, that the purpose of the act of 1899 is to secure *chemically* pure water. The respondent takes no such absurd position. What the respondent insists on is this: The Legislature of the State, recognizing that it is very often impossible, and very generally difficult to prove that particular acts resulting in the pollution of water are harmful to health, and knowing that typhoid and other disease germs are often conveyed into our potable streams by sewage, drainage, domestic and factory refuse and excremental substances, determined, by the act in question, to secure the protection of the public health by providing that—

“No * * * factory refuse * * * or other polluting matter of any kind whatsoever which, either by itself or in connection with other matter, will corrupt or impair, or tend to corrupt or impair, the quality of the water of any river * * * from which is taken * * * any public supply of water for domestic use in any city * * * shall be placed in or discharged into the waters * * * of any such river * * * above the point from which any city * * * shall or may obtain its supply of water for domestic use * * * .”

It is true, as appellant asserts, that the paramount object of the act is the promotion of health, or rather, I would say, the *protection* of health. But it does not follow that the Legislature is limited, in devising a scheme for securing that object, to the prescription of a method of procedure requiring conclusive proof that the prohibited act is harmful to health. The paramount object of the act is to *protect* health. Any act may be prohibited that may even *tend* to cause injury to health. The Legislature may prescribe an arbitrary rule on such a subject. It may declare, as in substance it has done in the act of 1899, that no one shall discharge in a stream whose waters are used for potable purposes any offensive matter whatever.

It may, as in 1882 it did (*Gen. Stat.*, p. 1170, *sec.* 36), fix an arbitrary rule that milk containing less than 12 per cent. of milk solids shall be deemed adulterated, and shall be, by an officer of the law, poured upon the ground. The paramount object of such an act is the protection of health, and it is constitutional notwithstanding it may be impossible to prove that a particular lot of milk failing to come up to the required standard is harmful to health. *Shivers v. Newton*, 16 *Vr.* 469.

It may set up an arbitrary standard to which all foods and drugs shall conform, as it does in the act in *Pamph. L.* 1901, p. 186, *secs.* 2, 3.

So, also, the act in *Gen. Stat.*, p. 1107, *sec.* 311, prohibiting persons from throwing into public water-supplies anything "calculated to render said waters impure," construed in *State v. Wheeler*, 15 *Vr.* 88, and above referred to, is in point here. The object of that act was to protect health by arbitrarily declaring that the doing of anything "calculated to render said waters impure" should be a misdemeanor. It goes far beyond legislating against a mere nuisance.

So the act of 1899, by its plain language, shows a legislative intent to deal with what might not constitute a common law nuisance. The title of the act is "An act to secure the *purity* of the public supplies of *potable* waters in this State." The participial adjective, "polluting," is not to be placed before the words "sewage," "drainage," &c., as defendant suggests. The act is framed on the theory that "sewage, drainage, domestic and factory refuse, and excremental matter" are necessarily "polluting" to waters used for *potable* purposes. The force of the act is not in the word "polluting," but in the words, "corrupt or impair, or tend to corrupt or impair." This language is just as broad and comprehensive, in relation to the things prohibited, as are the words "calculated to render said waters impure."

I submit, therefore, that the effort of the appellant to have the act of 1899 construed as a legislative intent to confer upon the Court of Chancery the power by injunction to restrain merely what amounts to a public nuisance, must fail.

III.

The appellant's next point, and seemingly the one most relied on, is that the act of 1899 is unconstitutional (1) because its title is deceptive; (2) because it is special and local; (3) because it grants exclusive privileges to corporations and individuals, and (4) because it confers penal jurisdiction on the Court of Chancery.

1. Is the act void because of a false and deceptive title?

The title is "An act to secure the purity of the public supplies of potable waters in this State." The defendant insists that this law fails to conform to the constitutional mandate that its object "shall be expressed in its title." It is said that the object of the law is to secure the purity only of a *part* of the public supplies of potable waters in this State. Therefore it is concluded the title is deceptive and the act void. This objection is founded on the first proviso in the first section of the act which reads as follows: "Provided, however, that this section shall not be held to apply to any city, town, borough, township or other municipality of this State which, at the date of the passage of this act, has a public sewer or system of sewers, drain or system of drains, legally constructed under municipal or township authority, discharging its drainage or sewage into any such river, brook, stream, lake, pond, well, spring or other reservoir."

In considering this point it should be premised that it is not often that an act of the Legislature has been set aside on this ground. It must be a very plain case to justify such action. This principle the courts have themselves declared.

In *Rader v. Township of Union*, 10 Vr. 509, it was held that an act entitled "An act in relation to streets in Union township, in Union county," was void because the real object of the act was to create a corporation distinct from the township authorities to take charge of a portion of the streets only, and that while such object was embraced in, it was not expressed by, the title. But, while this conclusion was reached, it is important, in view of the question now raised, to note that although the act then under review, by its first section (to quote the language of Beasley, C. J.), "sets off by designated boundaries a *certain part* of Union town-

ship," as a body politic, to be called the "Southeasterly Road District of the township of Union, in the county of Union," still there was no intimation that the act was void merely because the body of the act related to a territory smaller in area than the whole township. This is all the more noticeable since the language of the Chief Justice above quoted immediately follows his perspicuous statement of the purpose of the constitutional provision now under consideration in these words: "The purpose of this provision is plainly twofold—first, to insure a separate consideration for every subject presented for legislative action; second, to insure a conspicuous declaration of such purposes. By the former of these requirements, every subject is made to stand on its own merits, unaffected by 'improper influences' which might result from connecting it with other measures having no proper relation to it; and by the latter a notice is provided so that the public, or such part of it as may be interested, may receive a *reasonable intimation of the matters under legislative consideration*." The real reason for holding the act void on the ground that its title did not express its object, was that in setting off by designated boundaries a part of the township, and creating it a political district with certain corporate rights, a purpose was sought to be accomplished *for which there was no reasonable intimation in the title of the act*. No one would ever dream that by an act entitled "An act in relation to streets in Union township, in Union county," there would be an attempt to create a new political district.

In *Richards v. Hammer*, 13 Vr. 435, it was held that an act whose title was "An act relating to the assessment and revision of taxes in cities of this state," and whose single purpose was to modify the mode of appointing the members of the Board of Assessment and Revision of Taxes, was not void because of any failure to express its object in its title. In considering this objection Chief Justice Beasley, the same judge who gave the opinion in *Rader v. Union Township*, referring to that case as an extreme one, declared: "I may here say that I think it is only in perfectly plain cases that it is proper for the courts to vacate statutes on the ground now in question." This decision again is noticeable because the act then under review was held unconstitutional as one special and local, and regulating the internal affairs only of Newark and Elizabeth.

In *Payne v. Mahon*, 15 Vr. 215, and in *Anderson v. Camden*, 29 Vr. 518, it was held that only in a very plain case will an act be set aside on the ground that its title does not express its object.

In *Van Riper v. North Plainfield*, 14 Vr. 350, Justice Dixon, for the Supreme Court, said: "It seems to be well settled that the title of an act is not objectionable for its generality so long as it fairly points out the subject of the legislation. Said Justice Van Syckel, in *State, ex rel. Walter, v. Town of Union*, 4 Vr. 350: 'The degree of particularity which must be used in the title of an act rests in legislative discretion, and is not defined by the constitution. There are many cases where the object might, with great propriety, be more specifically stated, yet the generality of the title will not be fatal to the act if by fair intendment it can be connected with it.' And in *People v. Banks*, 67 N. Y. 568, the Court of Appeals, per Allen, J., said: 'It is not allowable, for the purpose of invalidating a law, to sit in judgment upon its title, to determine with critical acumen whether it might not have been more explicit and so drawn as more clearly and definitely to indicate the nature of the legislation covered by it. The Legislature is not subject to judicial control in respect to the form or mode in which the subject of a bill shall be expressed. If it is expressed, the constitution is satisfied.'"

In *Bumsted v. Govern*, 18 Vr. 368, the act entitled "An act concerning the constitution of the boards of chosen freeholders of this state, and to make uniform the selection and duties of directors of such boards," was held not to contravene the constitutional requirement that the object of the act should be expressed by its title, notwithstanding, as Justice Dixon said, "the law itself discloses that its exact aim was to abolish the peculiarities touching the selection and duties of director which existed in Hudson county alone." While Chief Justice Beasley dissented from this decision of the Supreme Court, it was affirmed in the Court of Errors by a vote of 8 to 1. 19 Vr. 612.

In *Walter v. Town of Union*, 4 Vr. 350, the court declared that the provision of the constitution now under consideration was to prevent surprise upon legislators by the passage of bills the object of which is not expressed by the titles, and also to prevent the combination of two or more distinct and unconnected matters in the same bill. It is not the object of the provision to embarrass

legislation. It was accordingly held that an act entitled "An act to amend an act to incorporate the town of Union," &c., and which merely sought to validate the proceedings previously had under an informally passed ordinance, was not invalid, on the ground that its title did not express its object.

In *Doyle v. Newark*, 5 Vr. 236, a similar case was decided in a similar manner.

In *Couteri v. New Brunswick*, 15 Vr. 58, the title of the act reviewed was "An act to fix and regulate the salaries of city officers in cities of this state," while its first section used language in its enacting clause limiting its effect to the city of New Brunswick alone. It was declared unconstitutional. It must be admitted that it much more readily suggests a violation of the constitutional rule that the object of an act shall be expressed in its title than does the act of 1899. Yet the authority of *Couteri v. New Brunswick* has been doubted, as the case of *Johnson v. Asbury Park*, cited below, shows.

In *Beverly v. Waln*, 28 Vr. 143, the act reviewed was "An act relating to the cost of improving sidewalks in the cities of this state." The enacting clause of the first section, in express words, related only to cities of the third class, and, of course, the act was held to be unconstitutional.

In the case of *Johnson v. Asbury Park*, 31 Vr. 427, the act there reviewed was "An act to amend an act entitled 'An act respecting licenses in the boroughs of this state.'" It was contended that the title of the act did not express a purpose to authorize the grant of licenses for revenue, but only for the exercise of the police power of the State. Chief Justice Magie, speaking for the Court of Errors, after referring to *Beverly v. Waln*, said, concerning that decision: "It was not held, nor was it intended to hold, that an act legislating respecting some objects fairly included within its title will be invalidated because it does not include all such objects except where the title, expressly or by necessary implication, evinces an intent to legislate as to all of them. This construction of the decision in *Beverly v. Waln* puts it in harmony with all our adjudged cases on the subject of the constitutional mandate in respect to the title of legislative acts, *except, perhaps, one such case.*" Chief Justice Magie then reviews a few other cases, holding the doctrine that there is a legislative discretion as

to the degree of particularity to be used in the title of an act which is wholly beyond judicial control, and then, evidently recurring by name to the one case which he had intimated might not be in harmony with the rule announced by him, he said: "*If the decision of the question in Couteri v. New Brunswick, 15 Vr. 58, is supportable, it must be on the ground that the title of the act under review in that case was false and deceptive, because importing a regulation of a class of cities, while, in fact, it applied only to a single city of such class.*"

In *Curry v. Elvins, 3 Vr. 362*, it was held that an act entitled "An act to incorporate the town of Hammonton, in the township of Mullica, in the county of Atlantic," was not unconstitutional, notwithstanding the new town was carved out of the township of *Hamilton* as well as out of the township of *Mullica*.

In *Long Dock Co. v. Haight, 7 Vr. 55*, it was held that the title of an act sufficiently expressed its object notwithstanding that title was "An act relating to taxes to be paid by the Erie Railway Company for certain property owned, leased, used or occupied by it in this State," and the object of the act was to exempt from certain taxes only that part of its property east of the westerly side of *Bergen Hill*.

The above cases have been cited for the purpose of showing that our courts have never been astute to find a reason for holding an act void on the ground that its title did not express its object. On the contrary, if a reasonable constitutional construction can be given to an act, it is always done. If we now turn to some cases where acts have been set aside because their titles did not express their objects, we shall see how perfectly clear a case must be to justify such judicial action.

In *Daubman v. Smith, 18 Vr. 200*, the act reviewed was entitled "An act to transfer the charge and keeping of the jails and the custody of the prisoners in the counties of *Essex and Hudson* from the sheriffs to the board of chosen freeholders, and for the employment of prisoners, and to regulate the term of service therein." The act was passed in 1857, and its ninth section provided in its enacting clause that "the board of chosen freeholders in the several counties in this State are hereby authorized to adopt the provisions of this act." It was accordingly held that an attempt to enforce the provisions of the act in the county of *Camden* was nugatory.

In *Ryno v. State*, 29 Vr. 238, the act reviewed had this title: "An act to prevent the sale of intoxicating liquors within one mile of Ocean Grove and Asbury Park, in Monmouth county, New Jersey." In the enacting clause of its first section it prohibited the sale of intoxicating liquors only "within a distance of one mile from Wesley lake bridge at Ocean Grove and Asbury Park." It was held that the object of the act was to legislate for a territory less in area than that mentioned in its title, and that accordingly the act was void.

In *Shivers v. Newton*, 16 Vr. 469, the act reviewed was entitled "An act to prevent the adulteration and regulate the sale of milk," and it was held that a provision in the body of the act prohibiting the sale of impure or unwholesome milk, that had not been adulterated by the admixture of foreign substances, was not embraced in the title.

In *Jersey City v. Elmendorf*, 18 Vr. 283, it was held that an act was void whose title was "A supplement to an act entitled 'An act to reorganize the local government of Jersey City,'" and whose only object as expressed in its body was to validate certain claims for work done in the city in an illegal mode.

In *Falkner v. Dorland*, 25 Vr. 409, the act reviewed was entitled "A supplement to the act entitled 'An act respecting writs of error.'" The object of the act was to authorize the removal by review of decisions founded on blended law and fact. It was held that such a procedure was plainly an appeal, and in no sense appertained to a writ of error, and accordingly that the act was void.

In *Plainfield v. Hall*, 32 Vr. 437, it was held that an act entitled "A supplement to an act entitled 'An act to provide for the review, by the justices of the Supreme Court of this State, of summary convictions by justices of the peace, police justices and recorders of cities in this State,'" and whose object as expressed in the body of the act was to confer on the judge of the Court of Common Pleas the same jurisdiction as was conferred by the original act upon a justice of the Supreme Court, was void because no intimation of such an object was expressed in the title.

In *Grey v. Newark Plank Road Co.*, 36 Vr. 55, the act reviewed was entitled "An act concerning companies empowered to construct horse railroads," and in its body the legislation was re-

stricted, first, to those horse railroads "heretofore organized under any special act of the Legislature, and which have, secondly, been empowered by any supplement to lay railroad tracks and operate a horse railroad, and, thirdly, whose time limited for commencing and completing the building of such railroad has expired." Of course, the act was held to be unconstitutional.

Recurring to the act of 1899. Its title must receive a reasonable construction. It is general in its scope. The object expressed is "to secure the purity of the public supplies of potable waters in this State." It does not mean that the degree of purity sought after is *chemical* purity. That, indeed, to quote the language of the defendant, would be "fanciful and Utopian." The body of the act goes as far in legislating to secure such purity as the Legislature deemed it proper to go when the act was passed. In a reasonable sense, the act is indeed an act "to secure the purity of the public supplies of potable waters in this State," and that is the object expressed in the title. The title is in no sense false or deceptive. As was said in *Walter v. Town of Union*, "the degree of particularity which must be used in the title of an act rests in legislative discretion and is not defined by the Constitution."

2. Is the act special or local, within the purview of article IV., section VII., paragraph 9 of the Constitution, which provides that no such law shall be passed by the Legislature unless public notice of the intention to apply therefor shall have been previously given, or does it contravene the provision of paragraph 11 of the same section, which declares that the Legislature shall not pass any local or special law regulating the internal affairs of cities?

The appellant says it is repugnant to both of these constitutional provisions.

I submit, in the first place, that it does not contravene the constitutional provision that "no private, special or local bill shall be passed unless public notice of the intention to apply therefor, and of the general object thereof, shall have been previously given." It is not a special or local law requiring notice. It does not purport to confer power upon any municipal or political subdivision of the State. The kind of special or local law referred to in the Constitution is one that some party must "*apply*" for. The Constitution says that "public notice of the intention to *apply* therefor" must be given. Who, in such an act as the one now

under review, would be the applicant? How and where would the notice be given? Should it, under the provisions of the legislation concerning notices (*Gen. Stat., p. 3196, sec. 46*), be published in a newspaper in every county of the State? If so, how can it be regarded as special or local? Is not the kind of special or local act here referred to one that the courts would require to be pleaded, the same as any other fact? If this act is special or local, why is not any act that relates only to boroughs or cities or townships or counties likewise special or local?

Every case referred to under this head by the appellant is a case dealing with the provision prohibiting the passing of any special or local law regulating the internal affairs of towns and counties.

This, then, brings us to the consideration of that question.

It is apparent that the act of 1899 does not purport to regulate such affairs. Every city which is now legally discharging its sewage into a river is let alone. Certainly the internal affairs of such a city are not regulated by the act. It is true that every city that is not now legally discharging its sewage into a stream whose waters are used for domestic purposes is prohibited from making such discharge. But this is not a provision *regulating* the internal affairs of any city. It is a provision *prohibiting* the doing of a certain act. The distinction between *regulation* and *prohibition* has often been made.

In *State v. Fay*, 15 Vr. 475, it was said that the charter of Hammononton conferred upon the municipality the power "to prohibit all traffic in or sale of intoxicating drink or drinks." In construing this language Justice Dixon, for the Supreme Court, said: "This is not equivalent to nor does it fairly embrace a power to regulate. The exercise of the latter power provides for the continuance of the traffic under prescribed rules; the former power is to be wielded only for its suppression. * * * For, intrinsically, regulation and prohibition range in different spheres. No sale which is prohibited is regulated, and none regulated is prohibited."

In *Paul v. Gloucester County*, 21 Vr. 587, Justice Van Syckel, speaking for the Court of Errors, referred to the above language of Justice Dixon as tersely stating the true view, and the distinction made by Justice Dixon was approved.

It may, however, be urged that inasmuch as the act of 1899 reserves to those cities which are now legally discharging sewage into natural streams the power to continue so doing, and denies such power to cities that have not yet exercised or acquired it, the act of 1899 does in fact operate unequally upon the different cities of the State.

In answer to this objection, I submit that the act is not special or local merely because it does not deprive those cities which acquired such power under special laws passed before 1875 from the right to continue to dispose of their sewage by discharging it into streams. This is settled by the doctrine stated in the three cases next cited.

In *Field v. Silo*, 15 Vr. 356, it was held that the District Court act of 1877 was a general law, notwithstanding, by a proviso, it had no effect in the city of Newark, where two District Courts had been created by a special act in 1873. The second section of the act of 1877 was that "one District Court shall be established in accordance with this act in every city of this State of fifteen hundred inhabitants, but cities of one hundred thousand inhabitants or over shall be entitled to two District Courts; *provided, always, that no more than two District Courts shall at any time be established in any city in this State.*" It was held that if this act should be construed to apply to Newark, that city would be entitled to four District Courts—two under the special act of 1873 and two under the general act of 1877; that such a construction would be in conflict with the plain purpose of the act; that the act of 1873 was not repealed, and that the act of 1877 did not operate to establish a District Court in any city where two District Courts existed at the time of its passage. And this conclusion was reached notwithstanding under the special act of 1873, the judges of the District Courts of Newark were appointed by the Supreme Court (see *Pamph. L.* 1873, p. 246, sec. 3), while under the general act of 1877 they were appointed by the Governor, with the advice and consent of the Senate. *Pamph. L.* 1877, p. 234, sec. 4.

In *Point Breeze Ferry Co. v. Bergen Neck Railroad Co.*, 24 Vr. 108, it was held that a supplement to the General Railroad law, extending the time for roads organized under that act, was not special, merely because it did not include in its scope railroads organized under special laws.

In *Benson v. Bloomfield*, 29 Vr. 496, it was declared that the Borough act of 1878 was general in providing that all boroughs created under it should conform to its provisions, and that such boroughs constituted a class for legislation to which boroughs under special charters do not belong. It was therefore held that the act was not unconstitutional for the mere reason that it did not embrace in its provisions boroughs formed under special charters before the constitutional amendments of 1875 went into effect.

Nor is the act of 1899 unconstitutional merely because it does not deprive those cities (if any there be) which since 1875 have acquired under general laws the power to discharge sewage into streams. For it is settled that "a general law cannot be deemed special because it does not sweep away other general laws." *Road Commission v. Harrington Township*, 25 Vr. 275; affirmed, 26 Vr. 328. See, also, *Randolph v. Freeholders of Union*, 34 Vr. 161.

3. It is also insisted by the defendant that the act under review is unconstitutional because it contravenes that part of article IV., section IV., paragraph 11, which prohibits the passing of any local or special law "granting to any corporation, association or individual any exclusive privilege, immunity or franchise whatever."

The argument is that special privileges and immunities are granted to those cities and municipalities that are now legally discharging sewage into streams from which potable waters are drawn by other municipalities.

But this particular provision of the Constitution relates to *private* and not public corporations. This is decided in *Pell v. Newark*, 11 Vr. 76, 77. The provision was applied to private corporations in *State v. Post*, 26 Vr. 284, and *Alexander v. Elizabeth*, 27 Vr. 71, but it has never been held to apply to a public corporation.

4. The appellant's next point is that the Legislature cannot confer on the Court of Chancery such power as the complainant contends for.

The argument is that the act of 1899 prescribes a penalty for the doing of the prohibited acts, and that the Legislature cannot transfer the jurisdiction of such cases to a court of equity and thus, as it is alleged, "diminish the jurisdiction of the civil courts." By "civil courts" I suppose the defendant means our courts of

law as distinguished from our Court of Chancery. It will be observed, however, that any proceeding instituted under the act of 1899, whether in the special statutory courts named in the act or in the Court of Chancery, is a proceeding founded on the statute. Of course, the Court of Chancery would have no jurisdiction of a case in which the act prohibited by the law of 1899 *was wholly completed*. The law does not purport to give equitable jurisdiction in any such case. It authorizes an injunction only "to prohibit the *further* violation" of the first section of the law. To warrant an application to the Court of Chancery the prohibited act must be a continuing one, or one recurring from time to time.

The defendant might as well argue, I submit, that the Court of Chancery cannot grant an injunction to restrain any public nuisance, because by so doing the jurisdiction of our criminal courts would be diminished. The argument is fallacious. The jurisdiction of the Court of Chancery to enjoin a public nuisance does not diminish the jurisdiction of our criminal courts. Neither does the jurisdiction of the Court of Chancery of an act prohibited by the law of 1899 diminish the jurisdiction of any other court.

It is true, as asserted in *Traphagen v. West Hoboken*, 10 Vr. 235, that the powers which inhere in any of our constitutional courts must be unassailable by legislation. Their jurisdiction cannot be impaired. But it is submitted that the act of 1899 does not impair the jurisdiction of any court of law. The statute has imposed upon the defendant a duty to the public, and that duty is now sought to be enforced by injunction because there is no adequate remedy in any court of law. How, then, can it be said that the act diminishes the jurisdiction of any law court?

IV.

The Facts of this Case, and the Law as Applied to those Facts.

It is quite natural, I think, that the first impression made upon the mind by reading the bill of complaint should be that it does not set out a case for equitable jurisdiction. Hoping that what has hereinabove been said may have shown that our Court of Chancery may acquire jurisdiction to grant an injunction under the terms of chapter 41 of the laws of 1899 without any allegation

or proof of actual damage to any person or persons whomsoever, and that the act is valid legislation, I now consider the facts of this case.

There is no dispute about the material facts. They are all admitted. Here they are:

The appellant is a corporation and is engaged in the manufacture of paper.

Its factory is located on the banks of the Rahway river, in Millburn township, Essex county; it employs forty hands, is in continuous operation day and night and makes two tons of paper per day. (Testimony, pp. 11, 12.)

Its raw stock consists of rags, burlaps, hemp, twines, cords and jute, 15 to 20 per cent. of which is colored stock (p. 15). It is purchased wherever it can be obtained to advantage. It is of different grades. The shirt clippings are of two kinds. No. 1 being the better clippings, and No. 2 being "not as clear and a little soiled by handling." The colored cuttings come from mills that make colored shirts, and the twines are picked up around stores. The stock is sometimes soiled, and such soiled stock is sometimes accepted and overlooked (pp. 64-66).

The first process is to assort the stock over wire screens and rub each rag on the wire screen for the purpose of rubbing off dirt, which falls into drawers beneath the screen. (Thompson, pp. 66, 72.) It is then put through a chopping process in the rag-cutter (p. 67).

It is then ordinarily put into a rotary boiler with chloride of lime, alkali and soda, and subjected to a steam bath at unknown temperature, there being no thermometer connected with the boiler (pp. 15, 67, 105, 106).

Some of the stock does not go through the rotary boiler and is not subjected to any steam bath (Thompson, p. 67).

Disease germs are not killed with any certainty except when subjected to a heat of at least 240 degrees in a closed vessel with live steam (Dr. Mitchell, p. 50).

It is then taken to the washing machine or beating engine, with knives in it, where the rags are cut and "where the alkali is washed out of them and whatever dirt may have come from the rags, if any." (Thompson, p. 68.) This process continues for six or eight hours, fresh water being admitted at one end and escaping, with its impurities acquired while passing through the machine,

at the other end. After six or eight hours of this process, and before being dumped out of the washing machine, the bleaching liquor (chloride of lime) is poured in. It is then dumped out in large vats, where it lies to bleach (Thompson, pp. 68, &c.).

The pulp, made in manner above indicated, is then mixed with water, carried in a thin sheet between rollers, the water squeezed out, the thin layers of pulp conveyed to hot dryers, and so finally is turned out as paper.

Mr. Van Gilder, the paper company's secretary, admits that in the cleansing process the defendant uses chloride of lime, alkali, soda-ash and ordinary quick-lime, and that considerable of the pulpy material escapes into the stream (pp. 17, 18).

The paper made at the plant is manilla tint, and paper that is "*chemically pure white paper*" (p. 15).

All the foul substances taken up by the water in the process of the manufacture, including not only those that are held in solution, but quantities of dirt and of the pulpy materials, pass with the effluent through the raceway into the Rahway river (pp. 12, 39).

The discharge into the river is above the point in the river from which Rahway city takes its supply of water for domestic use (Dr. Hunt, pp. 21, 22).

Shippen Wallace, State Chemist, has analyzed a sample of water obtained by Dr. Hunt from the feeder twenty-five yards above the factory and another sample from the raceway, about fifty yards below the mill, and a third taken from a faucet in Rahway city. The analyses were intended to show merely the fact that organic and inorganic materials were added to the water by the defendant.

The appellant's chemist, Axtell, went further. He ascertained in the samples analyzed by him the quantity of free ammonia, albuminoid, ammonia, nitrogen as nitrites and nitrates, and the quantity of oxygen required to oxidate the organic matter.

Mr. Wallace was not required to do all that Axtell did. It was not necessary. What was needed was proof of the discharge by the defendant into the river of factory refuse which corrupts or impairs the quality of the water. Nothing more. And both Mr. Wallace's and Mr. Axtell's analyses prove this conclusively. Here is a tabulated statement of the results of their analyses:

MR. AXTELL'S ANALYSES.

	Sept. 22, 1900.	March 5, 1901.	Sept. 6, 1900.	Sept. 22, 1900.	March 5, 1901.	Sept. 6, 1900.	Sept. 22, 1900.	Sept. 6, 1900.	Sept. 22, 1900.	March 8, 1901.
	Sample 500 ft. above factory.	Sample 500 ft. above factory.	Sample 300 ft. above factory.	Sample 60 ft. below factory, in tail-race.	Sample at Dam.	Sample 20 ft. below R. R. bridge	Sample 20 ft. below R. R. bridge	Sample 15 ft. below Millburn av. bridge.	Sample 15 ft. below Millburn av. bridge.	Sample at Rahway Intake.
Chlorine	8.65	7.00	7.50	24.65	17.50	19.00	18.55	17.32	10.50	
Total Solids.....	112.50	121.00	117.00	197.00	184.00	189.00	178.50	163.00	178.50	
Fixed Solids.....	61.50	73.50	64.00	100.50	86.00	149.00	93.50	91.50	94.00	
Organic Solids.....	51.00	47.50	53.00	96.50	98.00	40.00	83.00	71.50	84.50	

MR. WALLACE'S ANALYSES.

MATERIALS.	July 8, 1901.	July 8, 1901.	July 8, 1901.
	75 ft. above factory.	150 ft. below factory.	Sample at Rahway city.
Chlorine.....	5.00	23.50	15.00
Total Solids.....	140.00	460.00	300.00
Fixed Solids.....	90.00	220.00	110.00
Organic Solids.....	50.00	240.00	190.00
On Ignition.....	Does not blacken.	Blackens and gives off fumes.	Blackens.

These analyses show a bad corruption of the water of the river. They fully verify what one knowing the process of manufacture by the defendant would expect. Every one of the seven analyses of water taken by Mr. Axtell from seven different points *below* the appellant's factory is worse, much worse, than any of his three samples of water taken from the stream above the factory. Mr. Wallace's analyses show the same condition.

The sources of this corruption are worthy of attention. It comes from soiled and colored rags, jute, twine, &c. Specimens were produced by Dr. Mitchell, the Secretary of the State Board of Health. There were rags evidently soiled with human excrement and with the discharges of women during their periods of menstruation. (See Dr. Mitchell's testimony, pp. 55, &c.) The samples of water produced in court, taken from the tail-race just below the factory by Mr. Corley, the defendant's superintendent, show large quantities of foreign matter in it. (Dr. Mitchell, pp. 38, &c.) It is clear that the discharge corrupts and impairs, and tends to corrupt and impair, the quality of the water of the river.

Mr. Axtell's scientific conclusions that the chemicals put into the stream by the defendant tend to purify the stream, are of no value. He was employed to ascertain whether there was any positive proof that the discharges from the defendant's factory make the Rahway river water injurious to health. That is not the question. The question is, Do the discharges corrupt or impair, or tend to corrupt or impair, the quality of the water? If the water of the river above the factory is impure (as Axtell alleges), the State Board of Health will reach the sources of that evil in due time. They are the State's agents to do that very thing. The defendant has no authority from the State to attempt to improve the quality of the water by putting chloride of lime or any other chemicals in it. In any event it also put organic matter, decomposable stuff, into the water, and some of it filth of the worst kind, without subjecting it to any steam bath. Chloride of lime, chloride of sodium (common salt), chloride of magnesia, the organic and inorganic materials discharged into the stream by the defendant, *corrupt* that stream. I do not say that they make the water injurious to health. They may do so. But that is not the point. You may put common salt into your glass of water, and while it will not make it injurious to health, it corrupts or impairs its quality for drinking purposes. All kinds of corruption or im-

pairment of the quality of potable waters is intended to be prohibited by the act of 1899. The title of the act is "An act to secure the purity of the public supplies of *potable* waters in this State."

We are not dealing with the question as to whether certain mineral waters, impregnated with salts, are not sometimes prescribed for use by man. So is arsenic. Pure, potable waters are waters as free as possible from all salts and from all foreign substances. The much-advertised waters of the Poland and Underwood Springs, in Maine, are valued because they are almost chemically pure. The object of the act of 1899 is to secure a degree of purity in our public water-supplies that will approach as nearly as practicable to water that is chemically pure. Of course, the best that can be done will be far from that. But the State has declared that no factory refuse that will corrupt or impair, or *tend* to corrupt or impair, the quality of the water of any river that is used for potable purposes, shall be discharged into such river above the intake of any city. That is plain language. It is the duty of the court to see that it is enforced.

It is unnecessary for me to give more than a passing reference to the arguments of Mr. Axtell (who signs his reports "*F. C. Axtell, Ph.D.*"), to the effect that the defendant is actually engaged in a humanitarian work by treating the waters of the Rahway river with various chemicals and thereby improving its quality. The defendant is not the State's doctor, to put medicaments into its drinking water. Mr. Axtell's idea seems to be that chlorine is not in itself a thing that corrupts the quality of water for potable use. I say it does. He says when we find chlorine in water it suggests that there may be fecal matter there which "might contain pathogenic germs." I admit it. But suppose there be fecal matter in water and that fecal matter be known to be free from pathogenic germs, is the water then to be deemed uncorrupted? Mr. Axtell's whole argument, to be found in all three of his reports (p. 81, &c.), is founded on the assumption that water must have in it pathogenic germs or be positively injurious to health, in order to justify the court in granting an injunction. He says "that calcium hypochlorite has been employed as a medicament in the treatment of typhoid fever and dysentery in doses of from 3 to 6 grains," and that "should the water contain any free hypochlorite (which is extremely improbable) when it arrives at the

city of Rahway, no fear need be felt as regards a possible deleterious result due to the presence of this substance in the water."

On page 57 he also says: "We must discriminate and distinguish between the pollution and the contamination of a public water-supply. Pollution is always to be regarded as deleterious, while contamination may be innocuous, deleterious or beneficial. The results of the analyses given above prove that the effect of the discharge from the mill has been such as to exert a positively beneficial action on the quality of the water; and as long as the present conditions (such as the volume of the flow of water and the quantity and nature of the discharge from the mill) are maintained, it is difficult to see that any possible deleterious effect of such discharge on the quality of the water is to be anticipated."

It will thus be seen that he has wholly overlooked the fact that what the law prohibits is the doing of any act by which the quality of the water of any stream used by any city, town, &c., shall be corrupted or impaired *for drinking purposes*. I may have a glass of water chemically pure, but if I put into it common salt or clay or pure milk I corrupt its quality *as drinking water*. And when it is remembered that there go into the Rahway river not only the salts formed by the chemical combination of chlorine with lime, soda, &c., but coloring materials and dirt contained in washings from the raw stock in the process of manufacture, we see how valueless and useless for the purposes of this case are the scientific conclusions and speculations of Mr. Axtell.

Chemical analyses are valuable for the facts which they prove, just as any other proof is. The analyses of Mr. Axtell and Mr. Wallace are so in this case. The rule to be applied in the consideration of these analyses and the conclusions of Mr. Axtell is that stated in *Goldsmid v. Tunbridge Wells Improvement Commissioners*, cited with approval in *Newark Aqueduct Board v. Passaic*, 18 *Stew.* 406, as follows: "Speaking with all possible respect to the scientific gentlemen who have given their evidence, and as to whom it is but just to say they have dealt with the case most ably and most impartially, I think that in cases of this nature much more weight is due to the facts which are proved than to conclusions drawn from scientific investigations. The conclusions to be drawn from scientific investigations are no doubt in such cases of great value in aid of or in explanation and qualification of the facts which are proved, but in my judgment it is upon

the facts which are proved and not upon conclusions, the court ought in these cases mainly to rely. * * * In my view of the case, therefore, the scientific evidence ought to be considered as secondary only to the evidence as to the facts."

I submit that we are entitled to an injunction as prayed for in the bill of complaint, and that the decree of the Court of Chancery should be affirmed.

W. M. LANNING,
Counsel of Respondent.

DISINFECTION—DESTRUCTION OF HOUSEHOLD GOODS—DEMAND
FOR DAMAGES.

In Supreme Court of New Jersey, between Edgar Cook et al. and Board of Health of Asbury Park et al. In this case the plaintiff claimed that disinfection by an officer of the local board of health was unskillfully performed, and that needless damage was inflicted. Following is the charge to the jury:

FORT, J.

Gentlemen of the Jury—The case which you have been empaneled to try is an action for damages brought by the plaintiffs in this case, a husband and wife, and the joint lessees of a property in Asbury Park. There are several counts in their declaration, alleging different acts of trespass and conversion of property on the part of the two defendants, the board of health of the city of Asbury Park and Mr. David C. Bowen, who is health inspector of that board.

The court, on application to nonsuit, has already eliminated from this case the defendant, the board of health of the city of Asbury Park, for reasons then stated.

The first count of the declaration is founded on damages for trespass to premises—that is, in the language of the declaration, for entering with force and arms the dwelling-house of these plaintiffs unlawfully, and detaining them therefrom for a period of four days, as the declaration states.

The next count in the declaration is for taking and carrying away and destroying certain articles of personal property consisting of mattresses, beds, pillows, bolsters and other articles.

Another count following that has been added to the declaration during the trial for damages to their personal property not taken away, but for injury to it in handling the property for the purpose of disinfecting it.

Another count in this declaration charges that the defendant did with force and arms make an assault upon the plaintiffs and did beat, bruise, wound and ill-treat them, and in that same count there is a clause charging the defendant with having imprisoned them falsely and without reasonable or proper cause. The imprisonment being, as you have heard, in their own house.

All these counts, under our modern practice, are properly joined in one declaration, because they have all arisen out of one transaction, relating to one occurrence, and are of a tortious character—that is, alleged wrongs against the plaintiffs in this case.

The defendant justifies whatever he did and whatever was done under the authority of the board of health of the city of Asbury Park, whose representative he was. He has proven to be the inspector of that board, charged by its rules and regulations, which are in evidence, with the carrying out and performing of the things which are required to be done under those rules. He claims that whatever he did he did for the board of health. If the board of health of Asbury Park had power to adopt those rules and if it had the power to do the things which the defendant did, then if they would be justified, he would be justified. It is on that question, and that question alone, which the court proposes to send this case to the jury.

There is authority for the creation of boards of health, and under the general law of 1887 the board of health of Asbury Park, by the ordinance, Exhibit No. 6, was created. By that statute the board of health is given authority to ordain and establish an ordinance in the form of a code for the doing of the things which by that statute the board of health is authorized to accomplish. Among other things, it is given power by subsection 3 of section 12 of the act to pass ordinances: "To prevent the spreading of dangerous epidemics or contagious diseases and to declare that the same has become epidemic and to maintain and enforce proper and sufficient quarantine whenever deemed necessary." By a subdivision of another part of that section, it is provided that all local boards of health in cities "shall have power to adopt ordinances to remove persons infected to a suit-

able place in case of contagious or infectious disease (either one) where, in the judgment of the board, such removal is necessary and can be accomplished without undue risk to the person or persons diseased, and to disinfect the premises when deemed necessary."

By the twenty-fifth section of the act, local boards of health are given power to specify any contagious disease or diseases, in case of death over which no public funeral shall be had, and to prohibit such public funeral under a penalty to be imposed not to exceed \$50.

All the provisions of the law to which the court has called your attention had been acted upon in some form by ordinance of the board of health of the city of Asbury Park, and this ordinance is before you in the form of a sanitary code, and you may have it to consider, when you retire, if you desire; it was adopted on the 3d of August, 1897. In it provision is made as to public funerals and as to the preventing of them in case the disease is infectious or contagious or "communicable," as this ordinance has defined them, and which some of the doctors testify is the modern word that is now used instead of "contagious" or "infectious." It is therefore within the power of the board of health of Asbury Park to prevent, to the extent of inflicting a penalty if it is violated, any public funeral within the city of Asbury Park. There seems to be a lack in these statutes of the power of prevention except by a penalty for their violation. That is a very regrettable, as it seems to the court, condition of the statute, but regrettable as it is, it is the fact nevertheless. However, for the purpose of ascertaining whether a disease is contagious or infectious, and to determine whether a public funeral should in the judgment of the board of health or its proper officials be held, it is within the right of an officer of the board of health charged with that duty to inquire at the residence, and to enter the residence, with the consent of the occupants, to ascertain the actual facts, as it is his duty under this ordinance to notify them that a public funeral will not be allowed; otherwise there could be no recovery even of the penalty, as the ordinance requires that notice shall be given that a public funeral will not be permitted. In the performance of that duty, under this ordinance and under the statute an inspector has the right to go upon the premises, with the owner's consent, and inquire of the people as to the condition

there and to determine whether or not a public funeral should or should not be held, and in the doing of that he is not a trespasser and is not liable for any damages.

The next provision of this ordinance to which the court will call your attention is the one authorizing the establishment of a quarantine. The law to which the court has called your attention specifically and clearly authorizes the isolation of diseases and dwellings in which diseases may be, and the quarantining of the premises where diseases exist—that is, it authorizes, I should say, the board of health to adopt an ordinance for that purpose. The board of health of Asbury Park have adopted such an ordinance, and sections 13 and 14 of this ordinance relate to this subject. The fourteenth section says that whenever quarantine or isolation and separation of persons or property is ordered by said board, notice of such order shall be given to the persons affected thereby. In this case you will recall that notice was given of the fact that quarantine was established. That notice is in evidence before you, signed by Mr. Buchanon, president of the board of health, and was delivered by the defendant Bowen to the plaintiffs at their dwelling. Now, if that is all he did, that is not a trespass. The law authorized the board of health of Asbury Park to pass an ordinance, and when it passed an ordinance directing the manner in which that should be done and the quarantine established, and the officer of the board does no more than the law allows him to do, that is not a trespass. That is a legal right vested in him, in the interest of the public in the preservation of the health of the community to do just exactly that thing, to the extent which the ordinance authorized him to do; no more, no less. Laws with relation to keeping of the public peace and the preservation of the public health from the earliest times of the English common law until to-day, have been matters of police regulation and within the power of the Legislature, even to the extent of directing trials summarily and without a jury for the violation of such ordinances. To discover diseases of a character that are dangerous; to quarantine them in lawful ways, with no more curtailment of the rights of the citizens than is absolutely necessary for the public good, is within the power of the Legislature under our Constitution, as it was at common law, and is within the power of the board of health when conferred upon it by the Legislature. So, gentlemen, what was done in the way of quarantining in this case

is for you to say. Was there any imprisonment of these people in the sense of forcible confinement of them in violation of the law? Was there any striking, ill-treating or beating as charged in the declaration, in the form of assault and battery, in the imprisonment of these people as alleged? Is there anything of that kind in the evidence that satisfies you that that occurred in this case in establishing this quarantine or in maintaining it? That is for you to say. Of course, assault and battery cannot occur without the touching of the person in some way. But false imprisonment may occur without the actual touching of the person. If an officer taking a person into custody says: "I have a warrant for you," and he does not attempt to resist, yet he takes him away, that is false imprisonment without putting his hands on him, if the arrest was unlawful, or if not unlawful it was without reasonable or probable cause. That is the question here. The going there and quarantining these people in that house was under the authority of this ordinance and by its express direction. Now, did he do anything more than give notice? Yes, it is said that he posted men outside. That is not false imprisonment; there is no evidence that the court recalls (it is for you to say whether the court is in error about it) of any single act of resistance to the occupants in that house coming out of it at all. A man is not bound to stand still when somebody else tells him to, and it is for the jury to say whether or not these plaintiffs were actually imprisoned in that house forcibly and against their will.

The next proposition in the case is as to the disinfecting of these premises and the injury, if any, done to them by the disinfecting. Under the law of this State in regard to that, to which the court has already called your attention, it is within the power of the board of health to establish methods by ordinance for disinfecting, and they have done it in this case. This is what they have provided: "And all buildings, clothing, property, premises and vehicles which may become infected by the presence of persons affected by contagious or infectious or communicable diseases shall be disinfected at the expense of the tenant, occupant or owner thereof, and said disinfection or fumigation shall be made and performed in such manner and with such material, within such stated time and under such supervision as this board may direct." The only thing that can be done to a man for violating this section is a penalty which seems to be affixed to it, to which

the court has already referred. You will notice this disinfecting is to be in such manner and with such materials and at such stated time under such supervision as the board may direct. It is a little difficult to construe that section, but this class of ordinances must be construed in the interest of the public. It is a penal ordinance, it is true, and must be construed strictly, but while construing it strictly, that construction which, though strict, will be for the protection of the public health, should be given the ordinance. The board of health of Asbury Park, by the evidence in this case, is in the habit, by custom and by the direction of their rules, of disinfecting through their chief inspector or one of his deputies. They apparently do it at their own expense; there is no proof in this case one way or the other on that subject. It says in the ordinance, "at the expense of the tenant," but no allegations are here made that the plaintiffs have been charged or are to be charged, and no claim seems to be made in this suit for the cost of the disinfecting done here. I presume that we may take it for granted, as in all the cities of the state, under the present methods of sanitary regulation, that the boards of health do it at their own expense and out of appropriations made by the public, in order that the public health may be protected and conserved and everybody's interest guarded against disease of a dangerous, communicable or contagious character. So, if in disinfecting this property the law was complied with, the plaintiffs are still without remedy. If there was a contagious disease there—that is, if membranous croup of the diphtheritic character or diphtheria actually, as Dr. Bennett's certificate certifies, and you so find, then, the court charges you, the defendant was not a trespasser, but had the right to disinfect the house from the effects of that contagious disease.

Now, that is the entire side of the defendant in this case. Every right which he had, every defense which he can make the court has endeavored to state to you and it is simply a question whether or not he is within the law. Upon that some observations are necessary. He cannot go there for the purpose of quarantining the house and do these things that he ought not to do. He may do just what the law says he may do. If he oversteps it, then that is a trespass. He may go to the house for the purpose of determining as to whether there shall be a public funeral; he may do in that determination just what the ordinance permits him to

do. If, in disinfecting the property he destroys it or damages it beyond those destructions which are reasonably necessary, he is liable. He is liable for any such damage, because the law of 1893 has made a legislative declaration that in these cases there shall be damages for property destroyed in disinfecting. That means this: For all this property that was destroyed by Mr. Bowen, though destroyed for the purposes of stamping out disease, these plaintiffs are entitled to recover in this action, and that, notwithstanding the fact that the Legislature of the State has provided a method by which boards of health shall determine the value of that class of property. It is not within the power of the Legislature to take your property and destroy it under any condition, except they pay you such damages as that property is actually worth. That cannot be done even for the prevention of the spread of contagious diseases. It cannot be done even to check the spread of a fire. The city of Asbury Park may tear down a building to prevent a fire from spreading, but they must pay for the buildings they tear down. The idea being that it is much more for the interest of the public that one building should be paid for than that the whole town should be destroyed. The Legislature cannot provide that a man's property, under our form of government, can be taken under any guise whatever, unless compensation is made for the taking of it. So, if any personal property was taken from this house and destroyed it must be paid for. The defendants concede that they destroyed property valued at \$17.26, on their inventory, while the plaintiffs claim \$69, on their inventory. Now, whatever that was, for the value of the property actually destroyed, you must give a verdict for the plaintiffs. The plaintiffs are entitled to some verdict in this case, notwithstanding the fact that the Legislature has provided another method of ascertaining the value of goods destroyed, but that does not oust the court and jury of their jurisdiction to do the same thing. If the plaintiffs do not want to take the money offered them, as fixed by local authority under the act of the Legislature, they can sue. So it is for you to say what the damages are for the personal property destroyed in this case. Then it is also for you to say whether there was any damage done by Mr. Bowen in the disinfecting of this property which was injurious to the property disinfecting. If it was, they are entitled to recover that, and you will ascertain that. You have heard what they have testified to;

how certain parts of the furniture was spotted; certain carpets marked and things of that character that were injured in the way they have described. Now, how much money will make that good; the damage, the loss to them. All these other items of clothing also, that is for you to say. Add that to the amount that you shall fix, whatever it may be—somewhere between \$17.26 and \$69—and let that be your verdict.

The court charges you and proposes to take the responsibility itself that there can be no recovery in this case for punitive or vindictive damages. This is not a case, in the judgment of the court, in which the court should permit the jury to find damages in the way of punishment. The interest to the public in the preservation of the public health, even when officers make an honest mistake, is too great for the courts to permit a jury, except in the clearest case of willful and vicious action on the part of an officer, to assess damages of a vindictive or punitive nature. So there is only one grade of damages in this case for you to find and that is compensating damages. How much compensation will you give to these plaintiffs for property actually destroyed by trespass?

There are many requests handed me by the defendant's counsel, all of which I refuse to charge.

There are some requests handed to the court by the plaintiffs' counsel, some of which the court proposes to charge:

"2. The fact, if the jury find it to be a fact, that the defendant acted in good faith under the belief that the disease was diphtheria, and with reasonable and probable cause for such belief, is not a justification and will not protect him from liability." The court has already said that will not protect him from liability for damages, actual damages suffered by the destruction of property or by the trespass wrongfully done.

"3. If there was no communicable disease the defendant is liable for compensatory damages which includes damages to the feelings as well as for loss of goods destroyed, damage to goods and inconvenience in the use of the house resulting from defendant's acts." The court has already charged that and charges it again.

"4. Even if there was a communicable disease, the defendant is liable for any damages done by him or those assisting him, in

excess of what was reasonably necessary." I think the court has already charged that; if not, does charge it now.

"6. In arriving at the value of the goods destroyed, the jury are not bound by the inventory or appraisement made by Bowen, either as to the articles destroyed or as to their value." The court has already charged you that and charges it again. You are to fix the value; you are not bound by the \$17.26 or the \$69; it is for you to say what it shall be.

I am asked to charge the first request; I supposed the plaintiffs' counsel would not want it, after what I have charged:

"1. The defendant is liable in this case unless the disease of which the child died was in fact infectious, contagious or communicable." I think I have told you that he was liable in any event, irrespective of whether it was infectious, contagious or communicable. He is liable if he did things in excess of authority, and he is liable anyway for the actual damages done to property destroyed.

Defendant's counsel excepts to each and every refusal of the court to charge as requested. Exception allowed and sealed.

(Signed) J. FRANKLIN FORT, [L. S.]
J. S. C.

Also excepts to the charging of each and every request of the plaintiffs. Exception allowed and sealed.

(Signed) J. FRANKLIN FORT, [L. S.]
J. S. C.

An appeal was made in this case and the following brief was filed by the attorney for the local board of health:

The defendants in error recovered a judgment in the Monmouth County Circuit Court against the plaintiff in error for damages. Book, page 10, line 13.

The naar contained a count for trespass to land (Book, page 3, line 35), also a count for trover (page 4, line 13), also a count for assault and false imprisonment (page 4, line 29).

The defendant pleaded the general issue (page 5, line 22), also gave notice of special matter of defense (page 5, line 31), whereby

the defendants alleged that at the time of the commission of the alleged grievances, the defendant, the board of health, was a body corporate, under the act of March 31st, laws of 1887, page 80, and that by virtue of that act the defendant board of health was organized by the city of Asbury Park by an ordinance, May 3d, 1897, and in the said notice the defendants set up (Book, page 6, line 11), that the defendant David C. Bowen was its inspector, and found upon the plaintiffs' premises at the time of the alleged trespass a contagious disease, dangerous to the public health, and to prevent the spread of said disease the board of health did then and there order the destruction of certain goods there infected or likely to be infected by said disease, and that thereby the defendant David C. Bowen did destroy the goods, &c.

Said notice further set up that immediately thereafter (Book, page 8, line 14), the said David C. Bowen did certify the value of said goods to the municipal authorities of the city of Asbury Park, and the value thereof as certified was tendered to the defendants. This certificate and tender was under the act of 1893 (page 378).

The defendants further set forth in said notice (Book, page 8, line 26), that by virtue of the sanitary code of the city of Asbury Park, section 14 (see Book, page 136), the board of health established a quarantine of the plaintiffs' premises and caused notice thereof to be served upon the plaintiffs, and that the board of health served notice on the plaintiffs January 6th, 1900, withdrawing the quarantine, and that by virtue of the said matters the defendants were not guilty of any trespass, &c.

To support the plaintiffs' case evidence was offered to prove the destruction and value of the goods. The plaintiffs' witness, Dr. Bennett (Book, page 35, line 17) testified that membranous croup had affected a child on the plaintiffs' premises and that the child had died on December 30th, 1899. This witness for the plaintiffs had certified December 30th, 1899 (Book, page 136), to the board of health that the child had died from diphtheria. Whether Dr. Bennett's evidence that the disease was membranous croup was correct, or his certificate that it was diphtheria was correct, cannot make any difference, for both diseases were denounced as contagious and dangerous. See extract from sanitary code of the city of Asbury Park (Book, page 137, line 9).

See, also, laws of 1895, page 493. See section 3 of the act of 1895 describing both diseases as contagious.

Dr. Bennett admits that prominent medical authorities hold that membranous croup is contagious. Book, page 38, lines 12 to 24.

Dr. Bennett also filed a certificate with the State Board of Health that the disease was diphtheria. Book, page 38, line 33.

It was therefore established by the plaintiff that at the time of the destruction of the plaintiffs' goods, January 2d, 1900, and the quarantine, December 30th, 1899 (Book, page 136, line 1), a contagious disease had existed on the plaintiffs' premises December 30th, 1899, from which the destruction of the goods in question was imperative to safeguard the public health.

The defendants moved to nonsuit. Book, page 81, line 4.

The court granted the motion as to the board of health, but not as to David C. Bowen, the inspector. See Book, page 93, line 28. As to the refusal of the court to nonsuit as to David C. Bowen, the defendant Bowen excepted (page 90, line 11).

The nonsuit should have prevailed as to David C. Bowen.

He was the duly appointed inspector of the board of health. Book, page 90, line 30. He acted under the orders from the president of the board (page 90, line 30).

The president had power to direct the inspector. Book, page 92, line 19.

The board of health had power to authorize the president to act. Laws of 1885, page 239, section 6.

By the fifteenth section of the act of 1887 (see Revision, page 1638), it is enacted:

"That no injunction shall issue out of any of the courts of this State to stay, stop or enjoin proceedings, or to prevent any local board of health from proceeding with the removal of any alleged nuisance, source of foulness or cause of sickness, hazardous to the public health, until such board has been duly notified to appear and be present at the hearing of such application, and has an opportunity to be heard thereon; and no suit shall be maintained in any of the courts of this State to recover damages against any such board, its officers or agents, on proceedings had and maintained by them to abate and remove such nuisances and cause of disease unless it shall be shown in such suit that the alleged nuisance and cause of disease did not exist, and that the

same was not hazardous and prejudicial to the public health, and unless it be shown that the said board acted without reasonable and probable cause to believe that such nuisance did exist, and that such foul or noxious odors, gases, vapors or other cause was in fact prejudicial and hazardous to the public health."

I respectfully submit that at the close of plaintiffs' case there should have been a nonsuit by virtue of the above statute.

The plaintiffs had not shown that no cause of contagious disease existed, but had in fact affirmatively shown that such a disease actually existed. Book, page 38, lines 14, 23 and 34.

The plaintiffs had not attempted to show that the defendant acted in bad faith or that he did not believe or had no reason to believe that a contagious disease had existed upon plaintiffs' premises. In fact the plaintiffs ignored utterly in their proof the statute of 1887, section 15. That statute was treated as a nullity, although its wisdom and validity cannot be disputed successfully.

But by the fifteenth section of the act of 1887 it was not only incumbent upon the plaintiffs to show that no contagious disease existed, but that the defendants acted without reasonable and probable cause to believe that such disease existed.

I submit that Mr. Bowen was required by every consideration of regard for his duty and the protection of the public health to act as he did, and that he did have reasonable and probable cause to believe such a disease existed on plaintiffs' premises, and his conduct would have been criminal had he not at once acted as he did.

At the time the goods were destroyed Dr. Bennett had certified diphtheria had recently existed upon the premises of plaintiffs. Book, page 136, line 32.

If it was membranous croup, the thirteenth section of the code of Asbury Park required the defendant to immediately act. Either disease was highly dangerous to the public health.

The quarantine was established December 30th, 1899. Book, page 136, line 1.

It was removed January 6th, 1900. Book, page 137, line 30.

The board of health had power to establish this quarantine. Laws of 1892, Revision, sub-section 3, page 1644. It had power to disinfect. Revision, page 1645, sub-section 13.

On December 30th, 1899 (see Book, page 94), the defendant David C. Bowen received from Dr. Bennett the certificate of death, upon the plaintiffs' premises. Book, page 136, line 31.

He reported the case to the president of the health board, Mr. Nelson E. Buchanon. Book, page 95, line 9.

The president of the board directed that quarantine be established. Book, page 95, line 11.

Thereupon Mr. Bowen served the quarantine notice upon the plaintiff Cook personally. Book, page 95, lines 15 to 35.

Mr. Bowen at once disinfected the house. He used the method accepted by municipalities and describes the manner he did it. Page 96, lines 20 to 40. See also page 100, line 6.

There was no evidence offered by plaintiffs to show this method of disinfection was not the best nor the one generally adopted.

Mr. Bowen testifies that certain goods were destroyed because he believed they could not be safely disinfected. Page 97, lines 15 to 25. This was not refuted.

He testifies that what he did was without malice. Page 98, line 40.

The defendant Mr. Bowen acted pursuant to the directions from the president of the board in the action he took in connection with the defendants' premises and property. Book, page 90, lines 30 to 35.

The board of health ratified Mr. Bowen's destruction of the property by tendering the plaintiffs the certified value of the goods. Book, page 92, line 5. See section 6 of the rules and regulations of the board of health, (page 92, line 21). The destruction of these goods could not be deferred until their infection by disease germs had been tested by persons afterwards dying by inoculation from these goods. Certainly the inspector, Mr. Bowen, must then and there exercise his sound judgment as to what the situation demanded.

The destruction of the goods was lawful. Revision, page 1641. Section 24, Revision, page 1644. Sub-sections 3-8. *Newark v. Hunt*, 21 Vr. 309.

The goods in the house where the child had died were likely to be infected with the disease diphtheria or membranous croup. Evidence of Dr. Taylor, Book, page 110, line 18; also, page 111, line 2. See, also, evidence of Dr. Roberts, page 114, line 38; also page 115, line 3.

On page 60, line 13, the plaintiff began a series of questions intended to prove that a culture had been taken from the child's

throat and sent away for examination. These questions finally led to a question (Book, page 62, line 3): "Q. Tell me what the contents of that paper was?" This was objected to and exception taken to the admission. Book, page 62, line 18. It was admitted by the court upon the theory that it bore upon the motives of the defendant. Page 62, line 13.

I submit that such a paper could not show any motive whatever.

It was not shown by competent evidence that any report was ever made by anyone recognized as an authority, nor that it was received by Mr. Bowen before the quarantine or destruction of the goods. See Book, page 62, lines 4 to 12; see, also, page 61, line 8.

The admission of this line of evidence would naturally injure the defendant, and it was error.

This witness did not know the date he got the report. Book, page 64, line 31.

The court also permitted this witness to testify as to the methods adopted by the State Board of Health in examining cultures. He did not show any qualification or knowledge to testify on this line. Exception was taken to this. Book, page 65, line 11. All this line of evidence was intended to show that there was no diphtheria, although, in fact, it was worthless for that purpose. Book, page 64, lines 10 to 13; also page 60, line 27.

The defendant presented four requests to charge. Book, page 125, lines 1 to 22.

The court refused to charge either of these requests. Page 133, line 40.

Exception was taken to this refusal. Page 136, line 1.

The court charged the request of the plaintiff (page 134, line 4), as follows:

"The fact, if the jury find it to be a fact, that the defendant acted in good faith, under the belief that the disease was diphtheria, and with reasonable and probable cause for such belief, is not a justification and will not protect him from liability."

"If there was no communicable disease the defendant is liable for compensatory damages, which includes damages to the feelings as well as for loss of goods destroyed, damages to goods and inconvenience in the use of the house resulting from defendant's acts."

"Even if there was a communicable disease, the defendant is liable for any damages done by him, or those assisting him, in excess of what was reasonably necessary."

"In arriving at the value of goods destroyed, the jury are not bound by the inventory or appraisement made by Bowen, either as to the articles destroyed or as to their value."

"The defendant is liable in this case unless the disease of which the child died was, in fact, infectious, contagious or communicable."

I respectfully submit that under the law of this State the above rulings of the court were error, for which the judgment should be reversed.

We have seen that by the statute of 1887, section 15, that "no suit shall be maintained in any of the courts of this State to recover damages against any such board, its officers or agents, as proceedings had to abate any * * * cause of disease unless it shall be shown in such suit such * * * cause of disease did not exist and that the same was not hazardous to public health, and unless it be shown that the board acted without reasonable and probable cause to believe that such * * * cause did exist," &c.

It seems to me that this statute absolutely barred the plaintiffs' suit under the evidence.

The evidence showed in every way that such a disease did exist. It placed upon the board and its agents the responsibility of acting precisely as they did act. They had no alternative. They were required to act instantly.

The learned court, in the charge, eliminates entirely the question of the defendant's good faith, and likewise that he acted with reasonable and probable cause. Book, page 134, line 4.

This charge cannot be reconciled with the statute of 1887, section 15. It defeats the legislative purpose and subjects a health board and its agents to the reckless action of a jury which may be wrought to a high degree of passion and prejudice in suits of this character.

In the third request (page 134, line 12) the court subjected the defendant to damages for injuries to the plaintiffs' feelings as well as for the inconvenience in the use of the plaintiffs' home by reason of the defendant's acts.

Surely this case showed no intemperate conduct on the part of the defendant. He risked his own life to enter the home where a deadly disease had been present and where he could readily be inoculated. This was a case for the restraining arm of the court by virtue of the statute of 1887, not a case where a jury could give damages for injuries to the feelings, where no evidence was offered to show any wantonness on the part of the defendant.

And in the charge upon plaintiffs' first request (page 134, line 34) the court says: "The defendant is liable whether the disease was infectious or not," and that he was liable anyway for the damage done to the property destroyed.

The abatement of nuisances and causes of disease is part of the police power of a State or municipality. The power to preserve the health of a community is one of the chief purposes of the local government. Dillon on Municipal Corporations, third edition, sections 141, 369.

Can it be the law that a board of health and its officers are liable as trespassers when they destroy infected goods? What becomes of the public function of these boards if they are trespassers, even though their acts are for the public safety, and are based upon probable cause and urgent necessity? "The protection of the public health calls for the action of the public authorities and abatement." Am. & Eng. Encycl. Law, Vol 9, title "Health."

But it may be contended that the destruction of the plaintiffs' goods was the taking of private property for which compensation must be made under our constitution and therefore the action for trespass can be sustained.

My answer to this is that compensation is provided the owner of goods by the act of 1893, General Revision, page 1645.

By this statute "Whenever the * * * local board of health, to prevent the spread of contagious disease, destroy or order to be destroyed, personal effects, it shall be the duty of the board to make an inventory of said personal goods and certify the value thereof * * * to the municipal authorities, who shall pay over to the owner of the goods the sum so certified." This proceeding was adopted. See Book, page 97, line 28; also page 138, lines 1 to 40; page 139, lines 1 to 40.

This method of making compensation is somewhat novel, yet it is not perceived that it is void. If the inventoried values of

the goods taken should be inadequate, the owner might be entitled to bring an action against the board or its agent, upon an implied contract to pay for the value of the goods, but he certainly could not make the original taking of the goods a trespass and bring an action in tort.

In *Newark v. Hunt*, 21 Vr. 308, Justice Magie declared that diseased horses could be slaughtered by health boards, and such action was not in opposition to the fourteenth amendment of the Federal Constitution, which holds that no State shall deprive any person of his * * * property without due process of law.

The case of *Newark v. Hunt* held further, per Mr. Justice Magie: "It was probably within the power of the Legislature to authorize any person to abate such nuisances by the destruction of such animals."

But following the policy adopted in *Weller v. Snover*, 13 Vr. 341, and *Shriver v. Newton*, 16 Vr. 469, the Legislature wisely placed the power to abate in the hands of officials who may be supposed to act under a due sense of their responsibility, as well to the property owner as to the public.

In *Newark v. Hunt* the plaintiff contended that the power to destroy property was not conclusive that the exigencies existed requiring such destruction. This contention was not combated, but the court held: "As has been said in this court, every property owner holds the title to his property subject to the paramount consideration of the health of the community, and the power of the Legislature to fix upon it when, in certain conditions, the brand of noxiousness to public safety and health."

The question of the existence of the disease and its probable infection of the goods and the necessity for their destruction were for the jury, but the charge of the court left no alternative, but a judgment against the defendant.

In the case of *Shriver v. Newton*, 16 Vr. 469, the Supreme Court said "that the title to all private property is held subject to the paramount consideration of the health and safety of the entire public is too well settled for discussion. It is equally well settled that the authority inherent in the State under the title of police power enables the State to fix upon certain kinds of property, or upon the manner in which property is used, the brand of noxiousness to public health."

The case of *Hutton v. The City of Camden*, 10 Vr. 122, holds that "the action of a board of health finding that a nuisance exists on a person's property, such finding being in the absence of such person, and without notice to him, is void, even when it comes collaterally in question." The question whether a nuisance exists cannot be settled conclusively except in a regular course of law before the established court of law or equity.

The above case dealt with a situation where a board of health had sued to collect the cost of their abating an alleged nuisance.

But such a case is not in anywise analogous to the case of the plaintiff Cook.

The proceedings were to prevent an epidemic; the plaintiff's child was dead from a deadly disease; his household goods were probably inoculated with germs of disease calculated to destroy a community, and there was no time or occasion for notices to him to remove his goods or destroy them. The situation demanded immediate intervention of the health board and the adoption of sanitary methods, doubtless unknown to the plaintiffs.

If the goods were infected, and the evidence showed they were (Book, page 115, line 4), their value had ceased, and it was as essential for the plaintiffs' protection as for the public security that those goods, which could not be safely disinfected be destroyed forthwith.

There was no judicial proceeding the board or defendant could take in an emergency such as confronted them, to determine whether the goods should be destroyed or whether they should be examined for causes of contagious disease. In fact, there was but one thing to do, and that was to disinfect and destroy the goods forthwith likely to be still infected.

Asbury Park is a summer resort and at certain times of the year thousands of people congregate there for health and recreation.

The protection of these people from epidemics is placed upon the board of health. Such a body can only act through its representatives—the inspectors. Upon these inspectors, therefore, rests the responsibility of guarding the lives of these visitors. It was for these reasons that the Legislature adopted the statutes before cited.

Yet the proposition is here contended for that an inspector's

bona fides in his official action is immaterial; that the existence of a contagious disease is of no consequence in testing his liability; that he must pay damages for injuries to the feelings of persons who are subjected to quarantine or whose property is disinfected, and that without regard to his motive or belief.

If such a doctrine is law, then boards of health are stripped at once of their power and beneficent public uses.

They are put to the mercy of every angry property owner who feels an injury upon any entrance into his home, even though to save life. In fact, such a proposition, if it is law, destroys the usefulness of the boards of health and will prevent any inspector from entering any house to prevent an epidemic, and prevent the employment of an inspector of intelligence and competence as was Mr. Bowen. He testified that he had rendered similar services of disinfecting at Princeton College. Book, page 100, line 8.

The power to destroy property infected or likely to be infected with a dangerous disease has long been recognized by courts of law.

"The defendant, with others, at a time when Asiatic cholera was prevailing, and when the sanitary condition of all dwellings was important to prevent the spread of the disease, pulled down a tenement which was in a filthy condition. Held, that 'as a citizen he was justified in what he did.'" *Meeker v. Rensaleer*, 14 Wend. (N. Y.) 397; see, also, *Rex v. Pappinea*, 1 Strange 666; *Dewey v. White*, 1 Moody & M. 56; *Jones v. Williams*, 11 M. & W. 176; *Manhattan Manufacturing and Fertilizing Co. v. Van Keuren*, 8 C. E. Gr. 251; *State v. Wheeler*, 15 Vr. 88.

Query: Was Mr. Bowen required to defer the destruction of the goods until an epidemic had actually developed? This would seem quite absurd, and yet it is substantially the plaintiffs' contention.

The case of *Hutton v. Camden*, 10 Vr. 125, required the plaintiffs' (Cooks') case to be submitted to the jury on the question of defendant's motive; his *bona fides*, probable cause and necessity, but these elements were all eliminated by the charge to the jury.

I respectfully submit the judgment should be reversed.

S. A. PATTERSON,

Attorney and Counsel for Defendant.

New Jersey Sanitary Association.

Following is the announcement of the twenty-eighth annual meeting of the New Jersey Sanitary Association. The meeting was held October 24th and 25th, 1902, in the Laurel House, Lakewood, and was well attended:

- I. ANNOUNCEMENTS AND INTRODUCTORY REMARKS,
Henry C. Greene, Esq., Chairman Executive Committee.
- II. SANATORIA FOR CONSUMPTIVES, Dr. Charles J. Kipp, Newark, N. J.
- III. HYGIENIC INSTRUCTION FOR TEACHERS IN THE PUBLIC SCHOOLS,
Dr. C. J. Baxter, Supt. Public Instruction, Trenton, N. J.
- IV. TREASURER'S REPORT.
- V. MISCELLANEOUS BUSINESS.
REPORTS OF COMMITTEES.
- VI. PRAYER, Rev. R. H. McClellan, Lakewood.
- VII. PRESIDENT'S ADDRESS. BOARDS OF HEALTH: THEIR DUTIES UNDER THE
LAW; THEIR RELATION TO THE PREVENTION OF COMMUNICABLE
DISEASES, H. Brewster Willis, Esq., New Brunswick.
- VIII. FOOD PRESERVATIVES: THEIR EFFECT UPON THE HEALTH OF CON-
SUMERS,
Ernest J. Lederle, Ph.D., Pres't Board of Health, N. Y. City.
- IX. PREVENTION OF TUBERCULOSIS, AND WHAT EVERYONE SHOULD KNOW
ABOUT IT, S. A. Knopf, M.D., N. Y. City.
Abst.—Definition of the word Consumption, or Tuberculosis. The three
methods of infection, viz., inhalation, ingestion and inoculation, and their pre-
vention, modern methods of cure, value of Sanatoria as institutions of prevention
and cure. Duties of the government, the physician and the citizen in a solution
of the Tuberculosis problem.
- X. THE SANITARY ASPECT OF THE MOSQUITO QUESTION,
John P. Smith, Sc.D., New Brunswick, N. J.
Abst.—Insects carry infectious diseases in two ways: directly, as in the case
of typhoid fever; indirectly, as in the case of malarial affections. Life cycle
of mosquitoes, culex and anopheles. Extermination of mosquitoes and the rela-
tion of health boards to this duty.
- XI. SOME PRACTICAL SUGGESTIONS OF MOSQUITO EXTERMINATION,
Henry Clay Weeks, C.E., Bay Side, L. I.
Abst.—The most important economic question. Educational measures of
relief. Anti-mosquito habit essential. New Jersey's chances of final success.
Its salt marsh problem. The problem of its interior swamps, &c.
- XII. RECLAMATION OF LAND SUBJECT TO TIDE OVERFLOW,
John B. Duncklee, C.E., South Orange, N. J.
- XIII. ELECTION OF OFFICERS.
- XIV. MISCELLANEOUS BUSINESS.
- XV. ADJOURNMENT.

Circulars and Laws.

During the year ending October 31st, 1902, two circulars have been issued by the State Board of Health, as follows: No. 104, "Prevention of Small-Pox;" No. 105, "State Laboratory of Hygiene."

CIRCULAR 104, FEBRUARY, 1902.

Prevention of Small-pox.

Small-pox* has prevailed as a widespread epidemic in a number of the States during the past few years, and New Jersey, because of its being constantly traversed by travelers from all portions of the country, is especially exposed to the infection of this disease. Public attention has repeatedly been called by the State Board of Health to the vaccinal status of the inhabitants, and it has been shown that the number of unvaccinated children has increased from year to year.

An extensive outbreak of small-pox can be prevented with absolute certainty if vaccination of all susceptible persons is secured, and the question now arises, shall general vaccination be done before a great calamity compels resort to this preventive measure, or must there first be startling losses of life to arouse parents, guardians, school boards, the public, and, in too many instances, the health authorities also, to a realizing sense of their duty to institute precautions against the spread of this pestilential disease?

1. **Detection of the first case.** — Small-pox has been so frequently mistaken for chicken-pox that the utmost care is necessary on the part of physicians to prevent falling into this error, and rigid isolation of the patient should be practiced in first cases

* The term small-pox should invariably be used, never varioloid, because some persons have an erroneous idea that varioloid is a different disease from small-pox.

of this and other affections which simulate small-pox, until a diagnosis can be conclusively reached.

2. *In small-pox* the shortest incubation period, the period between exposure to infection and the first appearance of symptoms of illness, is seven days; average, twelve days; longest, twenty days. The infective period begins with the onset of the initial symptoms (chill, backache, headache, vomiting and high temperature) and continues until all scabs have disappeared. The greatest infectivity is during the vesicular and pustular stages of the eruption.

Before the appearance of the rash, the liability to impart infection is not great, and therefore isolation of a case very shortly after the appearance of the eruption, when associated with measures for vaccination, re-vaccination and disinfection, is generally effective in preventing further spread of the disease.

3. *In chicken-pox* the shortest incubation period is thirteen days; average, fourteen days; greatest, nineteen days. The introductory fever in chicken-pox is usually less intense than in small-pox, and the eruption generally begins on the trunk, often appearing on the second day, and rarely becomes prominent on the face.

4. *In measles* the period of incubation is variable, the least being four days; average, eight to ten days; greatest, fourteen days. The fever does not abate upon the appearance of the eruption, but is generally increased. Coryza is a very prominent symptom of measles.

5. **Vaccination.**—The protection afforded by successful vaccination is quite as effective as that produced by a previous attack of small-pox, but there is much uncertainty concerning the duration of this immunity, and therefore vaccination should be repeated at least as often as once in every five years, and it should also be done whenever an outbreak of small-pox occurs in the neighborhood. The operation of vaccination should be conducted with aseptic precautions, and none but glycerinated lymph from a trustworthy producer should be employed. After the arm has been bared the clothing should be securely held away from the site of the proposed abrasion, and the surface should be made clean by thorough washing with warm, sterilized water. After drying with absorbent cotton, the skin is scarified in one or more

places by the use of a needle which has been rendered sterile by passing it through the flame of an alcohol lamp. One drop of the glycerinated vaccine is then applied and rubbed in with the needle. The clothing should not be allowed to touch the wound until it is dry. In cases where re-vaccination proves unsuccessful, the operation should be repeated at the end of one week. Vaccination has caused undesirable results only in cases when uncleanly methods have been employed in collecting or inserting the lymph, and as at present conducted the operation is free from all objection.

6. *In prisons and almshouses* every person who is admitted as a permanent inmate should be vaccinated on the day of admission, and every such person should be vaccinated once in each year during his residence in the institution. This regulation should extend to every officer, teacher and employe, as well as to all prisoners and dependents.

7. *In boarding-schools* a certificate of recent successful vaccination should be required in the case of every pupil admitted.

8. *In cheap lodging-houses* the local health department should vaccinate and re-vaccinate all lodgers from time to time.

9. *Vaccination certificates* for use in schools and other institutions should be written upon blanks which are uniform in size, and the statement should show not only that vaccination has been performed, but that it has been successful or unsuccessful. The certificate should also show the date of last successful vaccination.

The following form of certificate, printed on cards 3 x 5 in size, is convenient for filing in a reference cabinet:

CERTIFICATE OF VACCINATION.

....., N. J., 190..
 This is to certify that.....
 aged.....years, was vaccinated by me....., 190..
 I personally examined said person....., 190., and found
 that said vaccination was.....
 [Successful or unsuccessful.]

 Signature, M.D.
 [Date of previous successful
 vaccination.]

Address,

10. **Domestic quarantine** is always unreliable, and an outbreak of small-pox cannot with certainty be arrested unless a suitably-located and properly-conducted isolation hospital is provided by the municipality or township. Guards for preventing communication with patients who are confined in private houses cannot be depended upon to perform their duties effectively, and, indeed, they often serve as carriers of the infection to other persons.

11. **Small-pox hospitals.**—Every sanitary district should provide, in advance of the appearance of a case of small-pox, a hospital for the isolation and treatment of persons who may, by refusing or neglecting to take advantage of the protection afforded by vaccination, become affected with this disease, and co-operation between adjacent municipalities and townships in the erection and maintenance of such hospitals is desirable from every point of view. One permanent small-pox hospital can be made to serve several sanitary districts quite as effectively as such districts could be served if each should build its own establishment, and by the addition of hastily-constructed temporary buildings, any unusual prevalence of the disease can be provided for. The permanent building should be fire-proof, and it should be durably constructed, with especial reference to the probability of its remaining unoccupied a considerable part of each year. Hospitals of this character can, of course, be rendered altogether non-infectious, and should occasion arise, they may be used for the reception of cases of plague, cholera, typhus fever, &c.

Temporary small-pox hospitals can be made ready very quickly and at very small expense by using rough hemlock lumber for the sides and roof, and by covering the entire exterior with tarred roofing paper.

12. *The location of the hospital* should be easy of access for the conveyance of patients and supplies, and it should not be nearer to any other building or roadway than 300 feet. A barbed-wire fence should surround the hospital at a distance of not less than 200 feet, and there should be but one entrance to this inclosure. Near the gate, on the inside of the inclosure, there should be a small building for the use of the guard in cold and stormy weather, and it should contain a room in which the physician can change his clothing, and it may also serve as a bath-house for outgoing patients. In this building there should be a telephone connected

with the hospital and also connected with the health office in the city.

In the absence of a crematory, excreta and garbage should be disposed of by burying these substances in a trench within the hospital inclosure. This deposit should contain no garments, rags, rubbish nor any other material which can be burned on the premises, and it should be covered with fresh earth daily. The hospital should be supplied with a vehicle for use as an ambulance, and patients should be transported to the hospital in this conveyance. Bedding should be removed to the hospital with the patient. The mattresses can be there at once destroyed by fire, but the sheets and blankets will be useful.

13. **Disinfection.**—Immediately after the removal of a patient affected with small-pox from an apartment or building all of the infected portion of the premises should be treated by a free application of a solution of bichloride of mercury (1 to 1,000). This can be done effectually by (a) immersing all clothing, sheets, blankets, &c., in wooden tubs containing the solution, and by thoroughly saturating with the solution all of the articles in the room, including the mattresses, pillows and carpet, and also the side-walls, woodwork and floors, by the use of a garden pump and hose, with a large rose or spray-producing nozzle. The woodwork and furniture should afterward be scrubbed with soap and water. Disinfection of garments liable to injury by the process above described can be effected by (b) placing them one by one, with as little folding as possible, in trunks or in boxes and applying to each layer of the goods, by the use of a small sprinkling pot, a 40 per cent. solution of formaldehyde gas (formalin). The receptacle containing the articles thus treated should be closely covered. After twenty-four hours the wash-goods should be boiled and then washed with soap and water. Articles of little value should be burned in the sick-room. When practicable, remove all remaining articles which can be transported to a sterilizing chamber and expose them to steam at a temperature of 240 degrees for thirty minutes. In localities where no sterilizing plant is provided, the infected mattresses, pillows and carpets should be destroyed by fire. Books which are infected should be burned, or they may be treated in the manner described on page 6 of circular 98.

14. *During epidemic outbreaks* of small-pox, the floors and all surfaces of the seats, hand-rails, doors and side-walls liable to be touched by infected persons in trolley cars, post-offices, shops, banks, schools, railroad stations and public buildings should be cleansed daily. All infected wooden surfaces should be sprinkled or sprayed with the bichloride of mercury solution (1 to 1,000); upholstered surfaces which are infected should be wiped with a cloth wet with the mercurial solution, and glass and metal surfaces should be scrubbed with soap and water.

15. **Small-pox suspects**, or persons who are believed to have been exposed to the infection of small-pox, should be vaccinated; the surface of their bodies, including the hair, should be washed with soap and warm water, and afterward bathed with a solution of bichloride of mercury (1 to 1,000), and after being provided with sterile garments they should be liberated and allowed to return to their homes as soon as the dwelling has been disinfected. All suspects should be examined daily during the incubation period of the disease by the medical officer of the local board of health. If a suspect desires to remove to any point outside of the jurisdiction of the local health board, the sanitary authorities of the district to which he goes should be notified of the day and hour of his arrival. The daily examination of suspects should include the use of the fever thermometer, and if any considerable elevation of temperature occurs it should be regarded as an indication that small-pox is developing and isolation precautions should be taken pending the appearance of more definite symptoms.

To detain persons who are not sick, except in certain exceptional cases, is unnecessary and unjustifiable, for if vaccination is performed immediately after exposure, there will be little risk of the development of small-pox. In extensive outbreaks of small-pox it is altogether impracticable to secure absolute isolation of suspects in built-up districts, and the cost of maintaining such separation, were it possible, would be a needless burden upon the taxpayers.

16. **Discharge of patients.**—Patients should not be discharged from the hospital until all scaling of the skin has ceased nor until the skin is perfectly smooth. Preparatory to his discharge the patient should bathe daily with soap and water, for several days, and after each bath he should apply vaseline to the skin.

Before he is discharged the patient should be washed with soap and warm water, particular care being given to the cleansing of the hair. He is then to step into a tub containing a solution of bichloride of mercury (1 to 1,000), and apply the solution to all of the surface of the body, and afterward to dress himself in sterile clothing and depart at once from the hospital premises.

As he is leaving the hospital gate he should be supplied with a certificate of discharge, signed by the hospital physician. This certificate should state the name, age, color, sex and address of the patient, date of admission to hospital, date of discharge, and that the patient is free from infection and in no danger of conveying small-pox to other persons.

Nurses and other employes in the hospital should bathe and be provided with sterile clothing before leaving the premises, in the manner above described for the discharge of patients.

The garments of outgoing patients should be prepared for use by treating them the day before the patient is to be discharged, as follows:

After being laundried in the usual manner the underclothing should be placed, together with all other articles of apparel, in layers in a tight box (a piano box is convenient), and each layer of the garments should be freely sprinkled with a 40 per cent. solution of formaldehyde gas. The box should be tightly closed, all cracks being covered with strips of paper securely held in place by paste. After twelve hours the articles should be removed from the box and dried. They are then ready for use.

17. The following measures are recommended for adoption by local boards of health for preventing the spread of small-pox:

Offer free vaccination and re-vaccination to all persons who cannot or will not pay for this service.

Advise parents to cause every child to be vaccinated before reaching the age of one year.

Advise that re-vaccination should be practiced as often as once in every five years, and if a case of small-pox appears in the neighborhood, all persons in the vicinity should be at once vaccinated or re-vaccinated.

Urge boards of education to enforce the provisions of section 22 of chapter 68 of the laws of 1887, which authorize exclusion from the public schools of all pupils who have not been vaccinated.

Call the attention of boards of education to sections 122 and

123 of chapter 96, laws of 1900, which authorize said boards to secure the vaccination of pupils.

In factories, the superintendent should be advised to direct all employees to be vaccinated.

Provide a suitable isolation hospital and arrange for medical care, nursing and hospital supplies. It should be remembered that domestic quarantine is unreliable and that no method for the isolation of infected persons is so effectual as that which attends hospital segregation. Require physicians and parents to notify the local health officer of every case of chicken-pox. Authority for this requirement is contained in sub-section 3, section 12 of chapter 68, laws of 1887.

Prosecute vigorously every person who violates section 1 of chapter 260 of laws of 1895, which requires that the local board of health shall be immediately notified of every case of small-pox.

In case of death the body should be at once enveloped in sheets saturated with the solution of bichloride of mercury (1 to 1,000), and be placed in a metal-lined coffin, and all joints in the metallic lining should be soldered and made air-tight. The burial should take place without delay and be strictly private.

18. Memorandum for the guidance of State sanitary inspectors and railroad employes, in the isolation of cases of dangerous communicable diseases which may be discovered on lines of travel in New Jersey.

1. When a case of small-pox is discovered in transit on the line of any railroad in this State, all uninfected persons should be removed from the car, and the car, together with the infected passenger, should be forwarded directly to one of the designated stations. Upon arrival at such station the local board of health should be at once notified and requested to send an ambulance for the transportation of the patient and his belongings to the hospital. Passengers and employes who may have been in direct contact with the infectious patient, and all infected baggage, should be delivered to the local board of health for such treatment as the board may deem necessary.

2. The infected car (day coach) should be side-tracked at the nearest available point, and there subjected to the following treatment: All of the surfaces of the interior of the car, to a level with the tops of the windows, should be wetted with a solution (1 to 1,000) of bichloride of mercury. The solution should be freely

applied to the floor (carpet to remain in place) by means of a sprinkling pot, the remaining woodwork and the curtains and cushions to be wiped with cloths wet with the solution. The infected portions of the woodwork should afterward be scrubbed with soap and water. Varnished and metallic surfaces should be immediately wiped with dry cloths to prevent spotting.

3. Infected sleeping cars should be forwarded to a station which is equipped with a sterilizing chamber, and, in addition to the foregoing treatment, all infected blankets, loose curtains, sheets, pillow-cases, mattresses and other infected textile fabrics which are movable, should be exposed to steam at a temperature of 240 degrees for thirty minutes.

4. In cases where small-pox occurs in any railroad station, the local board of health should be notified and requested to speedily remove the patient from the building. Until the patient is removed he should be isolated in a room provided for that purpose, and disinfection of the infected portion of the premises should be promptly performed.

5. All employes of public carriers should be vaccinated as often as once in five years, and they should be re-vaccinated whenever exposure to the infection of small-pox is known to have occurred.

CIRCULAR 105, AUGUST, 1902.

State Laboratory of Hygiene, Trenton, N. J.

1. The New Jersey State bacteriological laboratory was established under the supervision of the State Board of Health, in February, 1896, in a building erected through the liberality of Dr. Charles E. Green, upon the grounds of Princeton University. The service was there regularly performed until August, 1902, at which time the laboratory was removed to Trenton, and hereafter the work will be continued in the new location. This change was found to be desirable because of the greater facility which will be afforded for communication between the laboratory and the office of the board. The work is conducted free of charge, and it consists in examinations for diagnosis in the various affections which are produced by micro-organisms. Communicable diseases of whatever character, whether peculiar to man or to the lower animals, are investigated, and a diagnosis is made when possible.

Specimens may be forwarded by messenger, mail or express (preferably by mail), except in cases especially referred to in this circular, and when sent by mail they should, in every case, be enclosed in a container constructed in accordance with the requirements of the United States postal regulations. Full letter postage should be prepaid, and they should be addressed, State Laboratory of Hygiene, Trenton, N. J. Mailing packages are furnished by the laboratory, and they will at all times be supplied to physicians and health officers upon application if they cannot be obtained at the local repository.

Specimens of diseased tissues will not be received at the laboratory when transmitted through the mail unless they are forwarded in a mailing case constructed in accordance with the postal regulations. Following is a copy of the latest order of the Postmaster-General on this subject:

Order No. 176.

March 2d, 1900.

That the order of the Postmaster-General of December 27th, 1897 (Order No. 677), prescribing the conditions under which specimens of diseased tissues may be admitted to the mails, is modified as follows:

Specimens of diseased tissues may be admitted to the mail for transmission to United States, State or municipal laboratories, only when enclosed in mailing packages constructed in accordance with the specifications hereinafter enumerated. Liquid cultures, or cultures of micro-organisms in media that are fluid at the ordinary temperature (below 45° C., or 113° F.), are unavailable. Such specimens may be sent in media that remain solid at ordinary temperatures.

Upon the outside of every package shall be written or printed the words, "Specimen for Bacteriological Examination. This package to be treated as letter mail." No package containing diseased tissue shall be delivered to any representative of any of said laboratories until a permit shall have first been issued by the Postmaster-General certifying that said institution has been found to be entitled, in accordance with the requirements of this regulation, to receive such specimens.

Specifications for the construction of packages for safely conveying through the mails pathological specimens for bacteriological examination for diagnosis in cases of suspected diphtheria, tuberculosis and other communicable diseases:

1. The receptacle for moist specimens of diseased tissues shall be a strong glass vial or test tube having a capacity not greater than two drams. Said vial shall be covered and made water-tight by the use of a metal screw cap and a rubber or felt washer which has been immersed in melted paraffine; or, if a test tube be used, it shall be covered with a tightly-fitting rubber cap.

2. Said vial or test tube shall be placed inverted in a circular tin box. Said box shall be made of I. C. bright tin-plate, and shall have flush or countersunk bottom and soldered joints and not be smaller than one and one-eighth inches in diameter and three inches long, nor larger than two and one-quarter inches in diameter and five and one-half inches long. This box shall be closed by a metal screw cover and a rubber or felt washer, or tightly-fitting metal sliding cover, and it shall be so packed with absorbent cotton that the glass vial or test tube contained in said tin box shall be evenly surrounded on all sides by said cotton, and the cotton shall be closely laid.

3. Said tin box shall be placed inverted inside of a larger tin box similar to the one already described, which should snugly receive the specimen box. Upon the inside of the sides and bottom of this outer box there shall be a lining of compressed paper not less than three-sixteenths of an inch in thickness. Said outer tin box shall be closed by a metal screw cap and a rubber or felt washer; or this outside box may consist of hard wood, being a block having a cylindrical hole bored in one end and extending to within not less than one inch of the opposite end; the open end to be closed with a wooden or metal screw cap with a rubber or felt washer. Or the outside box may be a cylindrical wooden box having a screw cap and washer. The thickness of the sustaining part of the wooden tube to be not less than one-quarter of an inch and be lined same as the tin box.

4. The receptacle for dry specimens of diseased tissues shall be a glass test tube, three inches in length and one-half inch in diameter. Said test tube shall be inclosed in a circular tin box similar to those already described but measuring two and one-quarter inches in diameter and three and one-half inches in length, and be lined upon its sides and bottom with compressed paper not less than one-quarter of an inch in thickness. Said box shall be closed by a metal screw cap and a rubber or felt washer. Said test tube shall be closely packed in cotton.

A report stating the result of the examination will be sent by mail on the morning following the receipt of the specimen, and a report will also be sent by telegraph, at the expense of the parties interested, when a request that this shall be done is forwarded with the specimen.

Investigations of a private nature will not be undertaken, and physicians are requested not to send sections of tumors, &c., to the laboratory, as no examinations will be made of such substances, the work of the laboratory being wholly devoted to the public health interests of the State.

Inquiries will be made into the character and purity of the animal products in use in this State for prophylactic and remedial purposes, and also concerning the causes of wholesale poisoning due to unwholesome food, and into the germicidal value of the various substances employed in sanitary operations.

Investigations not expressly referred to in this circular will be undertaken only when specially authorized by the State Board of Health.

2. **Repositories for mailing cases** have been established at accessible points throughout the State, and new depots will be added from time to time, until the service rendered by the laboratory shall be within the reach of all physicians and health officers. Following is a list of the repositories which have thus far been established:

- Allentown, Carslake's Pharmacy.
 Alloway, Dr. W. L. Ewen.
 Andover, Dr. J. C. Clark.
 Annandale, Dr. W. E. Berkaw.
 Arlington, Dr. J. A. Exton.
 Asbury, Dr. F. J. La Riew.
 Asbury Park, Board of Health.
 Atlantic City, Board of Health.
 Atlantic City, Atlantic City Hospital.
 Atlantic City, A. D. Cuskaden, druggist.
 Atlantic City, H. H. Deakynne, druggist.
 Atlantic City, Wm. F. Ridgeway, druggist.
 Atlantic City, W. C. Wescott, druggist.
 Basking Ridge, Dr. F. C. Jones.
 Bayonne, Frank N. L'Estrange, druggist.
 Belleville, A. H. Osborne, druggist.
 Belmar, Seaside Pharmacy.
 Belvidere, Faust Bros., druggists.
 Berlin, W. W. Miller, druggist.
 Berlin, Board of Health.
 Bernardsville, Dr. J. Melgh.
 Beverly, Dr. A. W. Taylor.
 Blairstown, Dr. W. C. Allen.
 Bloomfield, Geo. M. Wood, druggist.
 Boonton, Dr. Jno. L. Taylor.
 Bordentown, Geo. M. Carslake, druggist.
 Bound Brook, Chas. L. Manning, druggist.
 Branchville, Dr. E. S. Dalrymple.
 Bridgeton, Board of Health.
 Bridgeton, A. S. Elwell, druggist.
 Burlington, Jno. W. Davis, druggist.
 Burlington, H. B. Weaver, druggist.
 Caldwell, Dr. E. E. Bond.
 Camden, Cooper Hospital.
 Camden, Barret Bros., druggists.
 Camden, Geo. M. Berlinger, druggist.
 Camden, Dr. R. I. Haines.
 Camden, Dr. J. S. Baer, druggist.
 Camden, F. S. Macpherson, druggist.
 Camden, Geo. J. Pechlin, druggist.
 Cape May, Dr. Anna M. Hand.
 Cape May C. H., Dr. Julius Way.
 Carlstadt, Dr. E. F. Sickenberger, Inspector.
 Cedarville, Board of Health.
 Chatham, Dr. Geo. M. Swain.
 Chatham, Dr. W. J. Wolfe.
 Clayton, Dr. C. F. Fislser, druggist.
 Closter, Dr. L. B. Parsell.
 Collingswood, Wm. A. Chamberlin, druggist.
 Columbus, Wells & Sons, druggists.
 Crosswicks, Dr. C. L. Dey.
 Deckertown, Dr. H. D. Gaasbeck.
 Deerfield, Dr. L. B. Phillips.
 Deerfield, Dr. E. S. Goudy.
 Delanco, Dr. H. K. Weller.
 Dover, Robert Kilgore, druggist.
 Dumont, Dr. J. E. Pratt.
 Dunellen, Dr. P. W. Brakeley, druggist.
 East Millstone, J. C. Thatcher, druggist.
 East Orange, F. L. Fieger, druggist.
 Egg Harbor City, Board of Health.
 Elizabeth, Bd. of Health, L. J. Richards.
 Elizabeth, Elizabeth General Hospital.
 Elizabeth, Richard Frohwein, druggist.
 Elizabeth, Geo. J. Martin, druggist.
 Elizabeth, Oliver & Drake, druggists.
 Elizabeth, William H. Reibel, druggist.
 Englewood, L. Rockefeller & Co., druggists.
 Englewood, Reeder Bros. & Schneider, druggists.
 Englishtown, Dr. W. E. Anderson.
 Fanwood, Dr. F. W. Westcott.
 Farmingdale, Dr. W. R. Kinmouth.
 Flemington, F. C. Burk, druggist.
 Freehold, Duryee & Conover, druggists.
 Frenchtown, E. M. Roche, druggist.
 Gladstone, Dr. M. C. Smalley.
 Glassboro, A. Trenchard, druggist.
 Gloucester City, Geo. B. Beakey, druggist.
 Gloucester City, W. S. Hilliard, druggist.
 Hackensack, H. Hospital Association, Dr. D. St. John.
 Hackensack, Eugene A. McFadden, druggist.
 Hackettstown, C. V. Rea, druggist.
 Haddonfield, R. Willard, druggist.
 Hainesport, Dr. W. C. Parry.
 Hammonton, Board of Health, Dr. Chas. Cunningham, Inspector.
 Harrison, Hudson county, Squier's Pharmacy.
 Hightstown, Dr. H. Cunningham.
 Hoboken, Board of Health.
 Hoboken, William Kamlah, druggist.
 Hoboken, Gustave Brandt, druggist.
 Hoboken, Victor Schmidt & Co., druggists.
 Hoboken, A. Schmidt, druggist.
 Hoboken, Chas. Sunkel, druggist.
 Hopewell, Geo. E. Pierson, druggist.
 Imlaystown, Dr. F. C. Price.
 Jersey City, Maxwell Abernethy, druggist.
 Jersey City, L. E. Carpenter, druggist.
 Jersey City, Frederick W. Frey, druggist.
 Jersey City, John C. Gallagher, druggist.
 Keyport, W. E. Warn, druggist.
 Lambertville, S. W. Cockran & Co., druggists.
 Lawrenceville, School.
 Layton, Dr. M. D. Hughes.
 Little Falls, S. Austen Rellly, druggist.
 Long Branch, Board of Health, W. J. Smythe, Jr., druggist.
 Long Branch, J. Rothenberg & Co., druggists.
 Long Branch City, John T. Britton, druggist.
 Madison, Wm. F. Brown, druggist.
 Matawan, Board of Health.
 Medford, Harry P. Thorn, druggist.
 Mendham, Geo. Robinson, druggist.
 Merchantville, J. W. Kohleman, druggist.
 Metuchen, Dr. W. V. McKenzie.
 Metuchen, Board of Health.
 Milford, Dr. C. H. Darmon, druggist.
 Millburn, Millburn Pharmacy.
 Millville, Geo. W. Weber, druggist.
 Millville, D. Evans Smith, druggist.
 Montclair, Benham & Johnson, druggists.
 Montclair, Loeser's Pharmacy.
 Moorestown, Board of Health, Dr. Stroud, Inspector.
 Morristown, Henry M. Smith, druggist.
 Mount Holly, E. B. Jones, druggist.
 Mullica Hill, Dr. S. F. Ashcroft.


Newark, Dr. T. W. Corwin.
 New Brunswick, J. H. Van Deurzen, druggist.
 New Brunswick, Wm. Rust & Sons, druggists.
 Newton, I. L. Hallek, Inspector.
 North Plainfield, Board of Health, Rev. W. E. Honeyman.
 Nutley, Henry T. Lefferts, druggist.
 Ogdensburg, Dr. L. C. Burd.
 Orange, Orange Memorial Hospital.
 Orange, A. Mosler, druggist.
 Orange, S. V. Begle, druggist.
 Oxford, James A. Allen, druggist.
 Palmyra, Dr. L. L. Sharp.
 Park Ridge, Dr. H. C. Neer.
 Parsippany, Dr. E. S. Cooper.
 Passaic, Otto Lane, druggist.
 Passaic, Van Riper & Co., druggists.
 Paterson, Board of Health.
 Paterson, Gurdon E. Pellet, druggist.
 Perth Amboy, Board of Health.
 Pitman, Dr. L. N. Slaughter.
 Plainfield, Board of Health.
 Pleasantville, Dr. J. H. Worth, Jr., druggist.
 Pompton Lakes, Dr. J. C. Morgan.
 Port Norris, Dr. S. F. Day.
 Port Oram, Dr. H. W. Rice.
 Princeton, Marsh & Burke, druggists.
 Princeton, W. L. Brimer, druggist.
 Rahway, George F. Brown, druggist.
 Ramseys, Dr. C. P. DeYoe, druggist.
 Raritan, Board of Health.
 Red Bank, Chas. A. Minton & Co., druggists.
 Ridgely Park, Dr. Henry C. Elsing.
 Ridgewood, H. A. Tier, druggist.
 Ridgewood, Dr. W. L. Vroom.
 Riverside, Warren C. Pine, druggist.
 Riverton, Dr. Alex. Marcy, Jr.
 Rockaway, Dr. F. W. Flagge.

Rockaway, Dr. Geo. H. Foster.
 Roselle, J. W. Rewalt, druggist.
 Rutherford, Board of Health.
 Salem, John E. Davis, druggist.
 Salem, Loerser's drug store.
 Sea Bright, Sea Bright's Pharmacy.
 Somerville, Jas. N. Case, druggist.
 South Amboy, Dr. Anna Manning.
 South Bound Brook, Dr. J. T. Robinson.
 South Orange, Jas. W. Gladhill, druggist.
 South River, Dr. F. W. Blissett.
 Springfield, Dr. J. A. Stiles.
 Stanhope, Nelden's Pharmacy.
 Succasunna, Dr. N. H. Adsit.
 Summit, W. H. Rogers, druggist.
 Swedesboro, Guest & Guest, druggists.
 Toms River, Dr. R. R. Jones.
 Town of Union (Weehawken), Aug. Frank, druggist.
 Trenton, Board of Health.
 Trenton, Mercer Hospital.
 Trenton, D. Wiley Baker, druggist.
 Trenton, Albert G. Holcombe, druggist.
 Trenton, G. D. Laird, druggist.
 Trenton, Lewis W. Long, druggist.
 Trenton, James L. Mathis, druggist.
 Trenton, John J. Strasser, druggist.
 Tuckahoe, Dr. J. S. Douglas.
 Verona, Verona Pharmacy.
 Vincentown, Frank S. Hilliard, druggist.
 Vineland, Alfred Pierson, druggist.
 Wanaque, Dr. W. N. Shippee.
 Washington, Chas. M. Williams.
 Westfield, Bayard Pharmacy.
 West Hoboken, Frank H. Eckert, druggist.
 Westwood, Dr. Theodore E. Townsend.
 Whippany, Dr. Harry S. Wheeler.
 Williamstown, Dr. J. G. Edwards.
 Woodbridge, Dr. B. W. Hoagland.
 Woodbury, J. W. Merritt, druggist.
 Woodstown, Harry Guest, druggist.

3. Diphtheria. — *Directions for taking cultures.* — The patient should be placed in a good light, and, if a child, should be properly held. In cases where it is possible to get a good view of the throat, depress the tongue and rub the cotton swab gently, but freely, against any visible exudate. In other cases, including those in which the exudate is confined to the larynx, pass the swab far back and rub it freely against the mucous membrane of the pharynx and tonsils. Without laying the swab down, replace it in the glass tube and plug the tube with the cotton stopper. Place the tube in the box and carefully close up the package. Fill out the following blank, which is sent with each diphtheria culture outfit.

BOARD OF HEALTH OF THE STATE OF NEW JERSEY.

STATE LABORATORY OF HYGIENE, TRENTON, N. J.

 This blank is to be accurately filled out and placed inside of the package, and returned therewith to the laboratory.

Name of sender of specimen.....
 Address.....
 Date..... Hour.....
 Name of patient..... Age.....
 Address.....
 Duration of disease.....
 How contracted.....
 Location of membrane.....
 Clinical diagnosis.....


Send the package at once to the *State Laboratory of Hygiene, Trenton, N. J.*, by mail or express, and prepay cost of transportation.

A report stating the result of the examination will be forwarded the following morning by mail. Report will be sent by telegraph at the expense of those interested, when a request to this effect is forwarded with the specimen. When negative results are obtained, re-examination of fresh specimens will be made when they are furnished. Secondary examinations for the purpose of learning when the throat is free from the diphtheria bacilli will be made after the disappearance of the membrane.

4. Pulmonary Tuberculosis.—*Directions for collecting sputa in cases of suspected pulmonary tuberculosis.*—Bronchial and not pharyngeal secretions should be collected. The sputa should be received in a perfectly clean receptacle and be transferred to the sputum jar furnished for this purpose by this laboratory. When the cover of the jar has been securely screwed down, the outside of the jar and cover should be thoroughly and repeatedly washed in clean water. The jar should then be enclosed in the package and be forwarded at once to the State Laboratory of Hygiene, Trenton, N. J. The following blank will accompany each package, and it should be filled out in every case.

NEW JERSEY STATE BOARD OF HEALTH.

STATE LABORATORY OF HYGIENE, TRENTON, N. J.

 This blank is to be accurately filled out and placed inside of the package, and returned therewith to the laboratory.

Date.....
 Name of sender of specimen.....
 Address of sender of specimen.....
 Name of patient.....
 Age..... Sex..... Color.....
 Address of patient.....
 Duration of disease.....
 How contracted.....

5. **Other Tuberculous Affections.**—In cases of suspected tuberculosis in some other locality than the lungs, any exudate or excretion from the affected part may be collected and forwarded in the sputum jars provided for transporting sputa in cases of pulmonary tuberculosis.

6. **Typhoid Fever.**—*Directions for collecting specimens of blood.*
 —The skin covering the tip of the finger or the lobe of the ear is thoroughly cleansed, and then pricked with a sterilized needle deeply enough to cause several drops of blood to exude. Five or more large drops of blood should be collected on a glass slide and be allowed to dry. The slide is placed in the box, together with the record blank, after the blank has been properly filled out, and the package is then forwarded to the laboratory. Following is the form of the record blank:

Laboratory No.....

BOARD OF HEALTH OF THE STATE OF NEW JERSEY.

LABORATORY OF HYGIENE, TRENTON, N. J.

Blood from a Patient Suspected to be Affected with Typhoid Fever.

Date.....

Name of patient

Age.....

Sex..... Color.....

Duration of disease.....

Range of temperature.....


If the patient has had typhoid fever previously, please state how long ago,
.....

How many specimens of blood from this case, if any, have already been sent?
.....

Name of sender of specimen.....

Address

Underline any of the following symptoms that may be present: Diarrhœa, iliac tenderness, enlarged spleen, rose spots, delirium.

 This blank is to be filled out and returned to the laboratory inclosed in the package with the specimen of blood.

7. Malaria.—*Directions for collecting specimens of blood for examination for the malarial parasite.*—It is essential to use perfectly clean, thin coverglasses in making these preparations. They may be kept in alcohol and be taken out, one at a time, at the moment they are to be used. They should be wiped dry with a soft linen cloth and be gently warmed over a spirit lamp. The patient's finger or the lobe of the ear may be selected to take the blood from. After puncturing the flesh with a needle, the coverglass, while it is still slightly warm, should be applied to the drop of blood. The coverglass should then be placed quickly on another coverglass, with the drop of blood hanging downward. The blood should immediately spread out between the coverglasses to the very edges on all sides, without the aid of any pressure. As soon as this takes place, and before the blood dries, the coverglasses should be separated by gently sliding one over the other, and the coverglasses should be allowed to dry separately. A thin layer is indispensable for a successful examination, as there should be but one layer of corpuscles exposed to view. Send both coverglasses to the laboratory.

8. **Rabies.**—The poison of this disease is found most readily in the brain of affected animals, and it is this organ which is selected for examination. *As soon as possible after the death of the suspected animal*, the brain should be removed, with aseptic precautions, wrapped in moist bichloride gauze, placed in a water-tight vessel (a glass preserve jar is convenient for this purpose), packed in ice, and forwarded to the laboratory. These specimens should in every case be conveyed by messenger.

9. **Asiatic Cholera.**—Discharges from the bowels of persons suspected to be affected with cholera should be collected and forwarded in the manner already described for forwarding sputa in cases of pulmonary tuberculosis, and should be sent to the laboratory by messenger only.

10. **Plague.**—Specimens of pus from the suppurating glands, or of the blood, should be collected in a sterile test tube and should be forwarded to the laboratory by messenger only.

11. **Gonorrhoea.**—*Directions for taking the specimens of pus in cases of suspected gonorrhœa.*—Take two or more thin coverglasses, which must be perfectly clean. Obtain fresh pus from the urethra or other infected organ of the patient. Put a very small drop, not larger than a pin-head, of the pus on a coverglass. Put a coverglass over it and press down gently. Then slip the two apart and allow the coverglasses to dry separately. Do not allow the coverglasses to stick together, but always separate them before they are dry. If there is too much pus, the examination will prove to be unsatisfactory. There should be only a very thin film. Both coverglasses should be sent to the laboratory.

12. **Tetanus, Purulent Ophthalmia, Influenza.**—Collect the discharges or substances suspected to be infected, and forward to the laboratory in a sterilized container.

13. **Anthrax, Glanders, Actinomycosis, Hog Cholera, Swine Plague.**—These affections can be identified by the bacteriological method. Specimens suspected to be infected should be collected by the veterinarian in attendance, with aseptic precautions, and should be forwarded to the laboratory in a sterile glass jar.*

*The sputum jars provided by the laboratory are not sterile.

Laws.

The following legislative bills, having relation to the public health, were introduced during the session of 1902:

ASSEMBLY BILLS, 1902.

No. 27, Mr. Hoffman. Makes it a misdemeanor to remove or embalm any dead body, concerning the death of which official investigation is necessary. (Judiciary.)

* No. 38, Mr. Tillotson. Authorizes authorities in charge of poorhouses to establish and maintain pesthouses for the reception of persons suffering with contagious and infectious diseases. (Public Health.)

* No. 49, Mr. Davidson. Authorizes local boards of health, through their proper officer, to limit the number of occupants in buildings, and rooms, and to prevent overcrowding in tenements. When provisions of act are violated \$25 fine and \$5 per diem for each day of continuance shall be penalty. (Municipal Corporations.)

* No. 81, Mr. Leavitt. Authorizes cities to construct public drains and sewers under certain conditions certified by the board of health of such cities, even though property owners object. (Municipal Corporations.)

No. 82, Mr. Leavitt. Authorizes cities to issue bonds not exceeding \$25,000, to purchase lands and construct, equip and maintain free public baths. (Municipal Corporations.)

No. 102, Mr. Bacheller. Forbids the erection of any hospital for sick and diseased persons by other than municipal authorities without first obtaining consent of people, city, town, township or borough authority. (Public Health.)

No. 106, Mr. Garrabrants. Authorizes boards of freeholders to acquire land and erect hospitals for contagious diseases. May issue bonds and condemn land. (Public Health.)

No. 116, Mr. Tillotson. Fixes penalty of \$1,000 fine for using glucose or corn in the manufacture of lager beer. Requires stamp showing date of manufacture and prohibits sale until six months after manufacture. (Public Health.)

* No. 127, Mr. Lord. Authorizes two or more municipalities to jointly establish and maintain hospitals for contagious and infectious diseases. (Municipal Corporations.)

* No. 139, Mr. Whitehead. Provides for a sewer system for Morristown. (Towns and Townships.)

* No. 143, Mr. Horner. Provides for establishment of "The New Jersey Sanatorium for Tuberculous Diseases," on site to be selected. (Public Health.)

* No. 150, Mr. Howland. Enables state board of health to take measures to prevent spread of contagious diseases where local boards do not act. (Public Health.)

* No. 159, Mr. Lutz. Enables towns to enlarge or build additional sewers and to issue bonds for same.

* These bills became laws.

No. 194, Mr. Tennant. Authorizes boards of health to enter hotels, apartment houses and other such buildings and remove persons having contagious, infectious or pestilential diseases to some proper place designated after examination by two reputable physicians. (Public Health.)

No. 201, Mr. Champion. Prohibits sale or slaughter of calves under four weeks of age, and authorizes health authorities to seize same. (Public Health.)

No. 202, Mr. Champion. Prohibits slaughter or selling of sheep or lambs until the pelts, head and feet have been removed. (Public Health.)

* No. 207, Mr. Tennant. Authorizes cities to purchase lands and erect hospitals thereon. Authorizes the mayor of such city to appoint five trustees, two of whom shall be physicians, which trustees shall have full charge of such hospitals and appoint all officers, &c. Mayor shall be ex officio trustee. (Municipal Corporations.)

* No. 210, Mr. Avis (by request). Incorporates the borough of Swedesboro, Gloucester county. (Boroughs and Borough Commissions.)

* No. 211, Mr. Avis (by request). Incorporates the borough of National Park, Gloucester county. (Boroughs and Borough Commissions.)

No. 212, Mr. Lord. Authorizes cities to provide, construct and maintain public baths. (Municipal Corporations.)

* No. 215, Mr. Howland. Amends the borough sewer act. (Boroughs and Borough Commissions.)

* No. 220, Mr. Newcorn. Authorizes counties having no county hospitals to appropriate not exceeding \$10,000 to private hospitals. (Municipal Corporations.)

No. 230, Mr. Fallon. Provides that any one who shall adulterate any article of food or composition or preparation of food, &c., shall be guilty of a misdemeanor. (Public Health.)

* No. 249, Mr. Champion. Authorizes cities to purchase lands and erect hospitals thereon for the cure of contagious diseases, which lands may be outside the limits of such city, provided the consent of the authorities of the municipalities in which the land is located is secured. (Public Health.)

* No. 269, Mr. Lord. Provides that cities may make contracts for five years for the collection of garbage, ashes, &c. (Municipal Corporations.)

* No. 275, Mr. Laire. Authorizes cities, towns and municipalities to make temporary loans to pay expenses incurred to protect citizens against infectious and contagious diseases, when same are epidemic or likely to become so. For the relief of Hackettstown. (Public Health.)

No. 324, Mr. Bacheller. Authorizes local boards of health to pass ordinances compelling persons to submit to vaccination. (Public Health.)

SENATE BILLS, 1902.

* Senate 4, Mr. Cross. Authorizes keepers of the state prison, state reformatory, State Home for Boys or State Home for Girls, when any of the inmates are suffering from any contagious or infectious disease of a dangerous character, to refuse to receive additional prisoners into their custody until the medical officers of such institutions shall certify that all danger has passed. The time of such prisoners, while in the custody of the sheriffs, shall be calculated the same as if they were in the above-named institutions. (Judiciary.)

Senate 14, Mr. Wakelee. The Passaic pollution bill, defining the duties and powers of the state sewerage commission in sewerage districts created to relieve the streams in the state from pollution, legalizes such district commissioners

* These bills became laws.

and provides that the members may receive from \$500 to \$1,500 a year, the chairman to receive in addition one-fourth as much more. The commission is vested with full powers to construct and operate in its district a system of intercepting sewers and disposal works. Power is given to purchase and condemn lands, &c. (Public Health.)

No. 57, Mr. Cross. Authorizes the state board of health, in order that local boards of health may be enabled to secure the services of trained sanitary inspectors, to conduct examinations at least semi-annually, to determine the qualifications of applicants. No sanitary inspector is to be chosen by local boards of health after January 1st, 1904, unless he be licensed. Does not interfere with the continuance in office of any one now serving in that capacity. Enables local health boards to create the office of medical officer of health, for which physicians only will be eligible. His term shall be five years; salary to be fixed by the board. (Public Health.)

* No. 64, Mr. Wakelee. Relates to the removal of bodies in any abandoned cemetery or burying ground in any municipality. (Public Health.)

No. 65, Mr. Johnson. Prohibits transporting into the state from other states, garbage or kitchen refuse of an organic nature. The feeding of such garbage or refuse to pigs or cows or other animals is prohibited. Penalty is fine of \$1,000 or six months imprisonment or both. (Agriculture.)

* No. 76, Mr. McKee. Regulates the practice of veterinary medicine, surgery and dentistry, licenses veterinarians and to punish violators. Provides for five veterinary medical examiners to be named by the governor. (Miscellaneous Business.)

* No. 87, Mr. Hudspeth. Authorizes local boards of health to collect annually license fees for dogs and issue license tags therefor. One-half of such fees to be applied to the uses of said board and the other half to be paid monthly to the district society for the prevention of cruelty to animals. The latter society is required to maintain a shelter or other place for the caring for animals and shall seize and pound all unlicensed dogs, such dogs to be returned to owners on payment of \$1 within three days. (Municipal Corporations.)

No. 119, Mr. Lee. Empowers local boards of health to compel all master plumbers, doing sanitary plumbing, to undergo an examination and prescribes license fee not to exceed \$25. (Public Health.)

* No. 141, Mr. McCarter. Defining the powers and duties of sewerage commissioner for the purpose of relieving rivers and streams from pollution. And authorizes the governor to appoint five men to constitute said board. Said commissioners to have power to maintain and operate a system of main sewers for taking up offensive and deleterious matter and conveying same to safe place to be disposed of in a manner most conducive to the public health. And all corporate bodies controlling sewers and drains to cause same to be connected with main sewers. Issue of bonds is provided for. (Public Health.)

* No. 142, Mr. McCarter. Creates sewerage district, to be called Passaic Valley Sewerage district, and fixing the boundaries of the same. (Public Health.)

No. 143, Mr. Wakelee. Covers practically the same grounds as No. 142. (Public Health.)

* No. 206, Mr. Strong. Providing that any prisoner in the state prison, suffering from small-pox or other diseases of a dangerously infectious character which would likely cause an epidemic among the other inmates may, by an order of a justice of the supreme court, be removed to a place where he can be safely isolated and receive proper care and medical attendance, and upon recovery to serve out unexpired term.

* These bills became laws.

PUBLICATIONS.—Following is a list of the publications issued by the Board:

1866—* Report of State Sanitary Commission.

1877—* First Annual Report.

1878—* Second Annual Report.

1879—* Third Annual Report.

* Circular to householders, city authorities, boards of health, &c.

* Circular to assessors, town clerks, &c., as to registry or marriages, births and deaths.

* Circular to sanitary organizations in cities.

1880—* Fourth Annual Report.

Circular on protection to bathers.

* Circular to householders, city authorities, &c.

* Circular on sanitary appliances.

* Circular to cities, townships, &c.

* Circular to local boards of health.

* Circular on contagious diseases of animals.

* Circular on milk-supply.

* Circular to local boards of health.

* Circular schedule of sanitary inquiry (Institutions).

1881—* Fifth Annual Report.

* Circular as to small-pox.

* Circular to local boards of health.

* Circular of suggestions to local boards of health.

* Circular as to sanitary household and ornamental articles and appliances.

* Circular to local boards of health.

* Circular to farmers and dealers in stock.

1882—* Sixth Annual Report.

* Circular as to contagious diseases of animals.

* Circular as to sanitary instruction and training in schools.

* Sanitary school circular.

* Circular to charitable and penal institutions.

* Circular as to geology, topography, &c.

* Circular on petroleum, kerosene, &c.

* Circular to local boards of health of cities and townships.

1883—* Seventh Annual Report.

* Circular 38—School and health circular, No. 3, for parents, guardians, children, teachers, trustees, &c. Report 1883, page 263.

* Circular 39—To local boards of health. Report 1883, page 266.

* Circular 40—As to health of operatives. Report 1883, page 270.

* Circular 41—Industrial circular No. 2, health counsels for working people. Report 1883, page 271.

* Circular 42—As to petroleum, kerosene, &c. Report 1883, page 275.

* Circular 43—As to annual reports of local boards. Report of 1883, page 277.

NOTE.—Asterisk (*) denotes that circulars are out of print.

1884—* Eighth Annual Report.

- * Circular 44—How to prevent the spread of small-pox, scarlet fever, diphtheria and other communicable diseases. Report 1884, page 223.
- * Circular 45—Cholera. Report 1884, page 234.
- * Circular 46—As to annual reports of local boards of health. Report of 1884, page 239.
- * Circular 47—Prevention of serious injuries to the mind, the eyes, the ears. Report of 1884, page 241.
- * Circular 48—Circular G as to animals. Report 1884, page 241.
- * Circular 49—Circular H as to animals, husk or hoose and tuberculosis in cattle. Report 1884, page 255.
- * Circular 50—Combined circular on contagious diseases of animals. Not published in report.

1885—* Ninth Annual Report.

- * Circular 51—To local boards of health of cities and townships. Report 1885, page 297.
- * Circular 52—Sanitary inspection of house and premises. Report 1885, page 299.
- * Circular 53—Pure drinking water, how to secure it. Report of 1885, page 305.
- * Circular 54—As to laws relating to public health. Not published in report.
- * Circular 55—Sanitary survey of school-houses. Report 1885, page 315.
- * Circular 56—Circular as to annual reports of local boards. Report 1885, page 321.
- * Circular 45—Cholera. Report 1885, page 323.
- * Circular 39—Marriage, birth and death returns. Report 1885, page 329.

1886—* Tenth Annual Report.

- * Circulars 57, 58 and 29 were reprints of older circulars.
- * Circular 29—Charitable and penal institutions.
- * Circular 27—Sanitary instruction and training in schools. Report of 1886, page 332.
- * Circular 30—Sanitary survey, topography, &c. Report of 1886, page 338.
- * Circular 57—To the physicians of the state as to typhoid fever and diphtheria. Report of 1886, page 341.

1887—* Eleventh Annual Report.

- * List of circulars to date, see report of 1887, page 234.
- * Circular 58—Health laws to 1885, replaced by circular 60.
- * Circular 59—Laws as to adulteration of food and drugs and petroleum.
- * Circular 60—Health laws to 1888 (not printed in report).
- * Circular 61—Care of household wastes. Report of 1887, page 235.
- * Circular 62—Drainage for health. Report of 1887, page 240.
- * Circular 63—Farmers' homes and their perils. Report of 1887, page 249.
- * Circular 64—Disinfectants and how to use them. Report of 1887, page 256.
- * Circular 40—Health counsels to working people. Report of 1887, page 265.

1888—* Twelfth Annual Report.

- * Circular 65—Construction of plumbing, ventilation, &c. Report of 1888, page 371.
- * Circular 66—Laws as to vital statistics.
- * Circular 67—To funeral directors. Report of 1888, page 380.

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1889—* Thirteenth Annual Report.

- * Circular 68—To local boards (spring circular). Report of 1889, page 324.
- * Circular 69—On meat, poultry, game and fish as foods, &c. (Reprint.) Report of 1889, page 327.
- * Circular 70—Our local health boards, &c. (Occasional bulletin series.) Report of 1889, page 340.
- * Circular 59—Laws and regulations as to foods, drugs, petroleum, &c. Report of 1889, page 354.

1890—* Fourteenth Annual Report.

- * Circular 71—As to sanitary inspection of hotels, &c., at resorts. Report of 1890, page 279.
- * Circular 72—Vital statistics. Report of 1890, page 290.
- * Circular 73—Cities, &c. Reference report 1890, page 281.
- * Circular 74—As to annual reports of local boards. Report of 1890, page 182.

1891—* Fifteenth Annual Report.

- * Circular 75—Health inspectors' guide (not printed in report).
- * Circular 76—Protection of schools from communicable diseases. Report of 1891, page 298.
- * Circular 77—Diphtheria. Report of 1891, page 305.

1892—* Sixteenth Annual Report.

- * Circular 78—Institutional inquiry into sanitary condition. Report of 1892, page 417.
- Circular 79—Marriage, and the State laws as to it. Report of 1892, page 431.
- * Annex to circular 45—Memorandum as to cholera. Report of 1892, page 442.
- * Circular 64—How to prevent the spread of small-pox, &c. (Reprint and revision.) Report of 1892, page 444.

1893—* Seventeenth Annual Report.

- * Circular 80—Traps and vents in house and soil pipes. (Not printed in report.)
- * Circular 81—Local health boards and inspectors. Report of 1893, page 361.
- * Circular 82—Health board hospitals, isolation of communicable diseases. Report of 1893, page 381.

1894—* Eighteenth Annual Report.

- Circular 83—Tuberculosis, its communicability and prevention. Report of 1894, page 380.

1895—* Nineteenth Annual Report.

- * Circular 84—Recent legislation. Report of 1895, page 290.
- * Circular 85—Should the United States mails be used for conveying specimens for bacteriological examination? Report of 1895, page 313.

1896—* Twentieth Annual Report.

- Circular 86—Bacteriological diagnosis. (Not printed in annual report.)
- Circular 87—Dangerous communicable diseases. Report of 1896, page 344.
- * Circular 88—Laws relating to public health. (Published in book form.)

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1897—* Twenty-first Annual Report.

Circular 89—Taking the place of circulars 84 and 85. Report of 1897, page 293.

Circular 90—Ice. Report of 1897, page 325.

- * Circular 91—Statutes of New Jersey relating to maritime quarantine. Report of 1897, page 326.

1898—* Twenty-second Annual Report.

- * Circular 86—Certification and registration of marriages, births and deaths. Report of 1898, page 433.

- * Circular 92—Announcing the reopening of the bacteriological laboratory. Report of 1898, page 447.

- * Circular 93—Relating to bacteriological diagnosis. Report of 1898, page 449.

- * Circular letter 29—Relating to the advantage and necessity of reporting communicable diseases. Report of 1898, page 428.

- * Circular letter 30—In regard to maritime quarantine.

- * Circular letter 31—Milk adulteration by addition of formaldehyde. Report of 1898, page 451.

- * Circular letter 32—Prevention of small-pox. Report of 1898, page 454.

1899—* Twenty-third Annual Report.

Circular 94—Relating to communicable diseases of animals. Report of 1899, page 321.

- * Circular 95—Relating to the prevention of the spread of small-pox. Report of 1899, page 364.

Circular 96—Containing public health laws of New Jersey. (Not printed in annual report.)

1900—Twenty-fourth Annual Report.

Circular 97—Relating to illuminating oils. Report of 1900, page 313.

Circular 98—Relating to the restriction of the spread of communicable diseases. Report of 1900, page 317.

Supplement to circular 98—Relating to the prevention of the spread of diphtheria and scarlet fever. Report of 1900, page 332.

Circular 99—Relating to maritime quarantine. Report of 1900, page 332.

1901—Twenty-fifth Annual Report.

Circular 100—Relating to the transportation of the dead. (Not printed in report.)

Circular 101—Relating to the certification and registration of births, marriages and deaths. Report of 1901, page 350.

- * Circular 102—Relating to the prevention of small-pox. Report of 1901, page 370.

Circular 103—Relating to foods and drugs. Report of 1901, page 374.

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Report on the Sewerage Systems in New Jersey.

BY A. C. HUNT, M.D., STATE INSPECTOR.

For the purpose of completing and correcting the list of localities in New Jersey in which sewerage systems are in operation, a circular letter was forwarded to all towns where sewers have been introduced. In some instances no reply has been received, and therefore no new facts concerning these localities have been obtained. The list is arranged in alphabetical order.

Allenhurst.—The sewer system of the borough of Allenhurst was introduced in 1896. At the beginning of the year 1902 four miles of sewer pipe had been laid. Sewage is discharged directly into the ocean. Storm water is not allowed to enter the sewers.

Asbury Park.—The sewer system for the city was introduced in 1885. All the streets in the city are sewered, and there is no property so located within the city limits that connection with the sewer cannot be made. Crude sewage is discharged through two outlets into the Atlantic Ocean. One of these outlets discharges beyond low-water mark, and the other discharges in the ocean 500 feet beyond the low-water mark.

Atlantic City.—The sewer system for this city was introduced in 1885. The total length of sewers is thirty miles. The sewage is pumped from the city into what is known as the "thorofare," a tidal way west of the city. Storm water is not permitted to enter the sewers. During the year 1901, 10,000 feet of pipe were added to the present system.

Avalon.—The sewer system for this borough was introduced in 1898. The total length of sewers is two and eight-tenths miles. Sewage is discharged into what is known as Beach creek. Storm water does not enter the sewers.

Bayonne.—The sewer system for the city was introduced in 1870. The total length of sewers is sixteen miles. Sewage is discharged into New York and Newark bays, and also into the Kill von Kull. Three miles of sewers have been added during the year 1901.

Beach Haven.—The sewer system for this borough was introduced in 1893. The total length of sewers is two and one-half miles. Sewage is

discharged into the bay. Storm water does not enter the sewers. No extensions have been made recently.

Belmar.—The sewer system for this borough was introduced in 1889, but it was not finished until 1897. The total length of sewers is twelve miles. Sewage is discharged by two outlets into the Atlantic ocean. One of the outlets is carried 500 feet into the ocean and the other 800 feet. Storm water does not enter the sewers.

Belvidere.—About one-half of the town of Belvidere is supplied with sewers. The total length of sewers is one mile. Sewage is discharged into the Delaware river and Pequest bay.

Bogota.—The sewer system was introduced in 1896. The total length of sewers is 7,000 feet. Sewage is discharged into the Hackensack river. Twelve hundred feet of extensions have been made during the year.

Bordentown.—Three sewers have been constructed in Bordentown, and these discharge into what is known as Thorntown and Black's creeks.

Bound Brook.—The sewer system for this borough was completed in 1896. Total length of sewers, five miles. The sewage is discharged into the Raritan river.

Burlington.—The sewer system for this city was introduced in 1891. The total length of sewers is ten miles. The sewage is discharged onto filter beds outside of the city limits. Storm water does not enter the sewers.

Camden.—The sewer system for this city was introduced in 1863. The total length of sewers is fifty-two miles. The sewage is discharged into the Delaware river.

Cape May City.—The present system of sewers was introduced twenty-five years ago. The sewage is discharged into what is known as Cape Island Sound. But few extensions have been made during the year.

Cliffside Park.—Sewers were introduced in 1899. The total length of the system is 8,000 feet. The sewage is discharged into the Hudson river.

Collingswood.—Sewers were introduced in 1899. The total length of the system is six and one-half miles. The sewage is discharged onto filter beds (Waring system), and the effluent is finally discharged into Newton creek. Storm water does not enter the sewers.

Cranford.—The sewer system for Cranford was introduced in 1898. Fourteen miles of pipe have been laid. The sewage is conducted into the Rahway river.

Deal.—Sewers were introduced in 1898. The total length of the sewers is seven miles. The sewage is discharged into the Atlantic ocean.

East Orange.—Sewers were introduced in 1887. The total length of the system is fifty-one miles. The sewage is discharged into the Passaic river.

Elizabeth.—The sewer system in this city was introduced in 1855. The total length of the sewers is fifty-six miles. The sewage is discharged into the Elizabeth river and also into Staten Island Sound. The sewers carry storm water as well as house waste.

Englewood.—The sewer system for the city of Englewood was introduced in 1887. The sewage is discharged into tide water by gravity.

The outlet is located on Overpeck creek, about one mile from the city of Englewood. Storm water does not enter the sewers.

Flemington.—The sewer system for Flemington was introduced in 1878. The total length of the sewers is seven and one-half miles. The sewage is conducted to a disposal field containing seven acres.

Freehold.—Sewers were introduced in 1893. The total length of the system is seven miles. The sewage is discharged upon filter beds, and the effluent is conducted to a brook. Storm water does not enter the sewers.

Glen Ridge.—Sewers were introduced in this borough in 1895. The total length of the sewers is ten miles. The sewage is discharged into the Passaic river. Storm water is not carried by the sewers.

Hackensack.—The sewer system for this city was introduced in 1870. The total length of the system is sixteen miles. Sewage is finally discharged into the Hackensack river. The combined system is in use.

Haddonfield.—Sewers were introduced in this borough in 1900. The total length of the system is fourteen miles. The sewage is discharged onto sand filter beds, located on the meadows, about two miles east of the borough. Storm water does not enter the sewers.

Harrison.—Sewers were introduced in 1872. The total length of the system is four and one-half miles. The sewage is finally discharged into the Passaic river. The combined system is in use.

Hoboken.—Sewers were introduced in this city in 1858. The total length of the system is thirteen miles. The sewage is finally discharged into the Hudson river. The combined system is in use.

Irvington.—At the present time there is no sewer system in Irvington, but contracts have been given out for a system which will probably be in operation in 1903.

Jersey City.—Sewers were introduced in this city in 1848. The total length of the system is 110 miles. The sewage is finally discharged into the Hudson river, and also into the Hackensack river. The combined system is in use.

Lakewood.—Sewers were introduced in Lakewood in 1887. The total length of the system is nine miles. The sewage is finally discharged into the Metedeconk river. The separate system is in operation.

Long Branch.—Sewers were introduced in this city in 1885. The total length of the system is eight miles. The sewage is first treated chemically and the solids removed. The effluent is then discharged into the Atlantic ocean. Storm water does not enter the sewers.

Longport.—Sewers were introduced in 1886. The total length of the sewers is one-half mile. The sewage is finally discharged into what is known as the Beach thorofare. Storm water does not enter the sewers.

Millburn.—Contracts have been given for the introduction of a sewer system in Millburn, and the system will be completed in 1903. The outlet will be by main trunk sewer into the sound at Bayway.

Montclair.—The sewer system for this city was introduced in 1893. Forty miles of pipe have been laid. The sewage is discharged into the Passaic river. During the past year four miles of extensions have been made.

Newark.—Sewers were introduced in this city in 1854. The total length of the system is 185 miles. The sewage is discharged into the Passaic river and Newark bay. The combined system is in use.

New Brunswick.—Sewers were introduced in this city in 1871. The total length of the system is thirteen miles. The sewage is finally discharged into the Raritan river. Storm water enters the sewers.

North Spring Lake.—Sewers were introduced in 1894. The total length of the system is six miles. The sewage is finally discharged into the Atlantic ocean. Storm water does not enter the sewers.

Ocean City.—Sewers were introduced in 1893. The total length of the system is five miles. The sewage is finally disposed of in Channel bay. Storm water does not enter the sewers.

Ocean Grove.—The sewer system was introduced in this city in 1880. The total length of the system is seven miles. The sewage is finally discharged into the Atlantic Ocean 1,200 feet from the shore. Storm water does not enter the sewers.

Oradell.—A portion of this town is sewered. The system was introduced in 1892. The total length of the system is one mile. The sewage is finally discharged into the Hackensack river.

Orange.—Sewers were introduced in 1894. The total length of the system is thirty-eight miles. The sewage is finally discharged into the Passaic river.

Palisades Park.—Sewers were introduced in this borough in 1889. The total length of the system is two miles. The sewage is finally discharged into Overpeck creek. Storm water does not enter the sewers.

Passaic City.—Sewers were constructed in this city in 1890. The total length of the system is thirty-two miles. The sewage is finally discharged into the Passaic river. Storm water does not enter the sanitary sewer.

Paterson.—Sewers were introduced in this city in 1869. The total length of the system is seventy-one miles. The sewage is discharged into the Passaic river. The combined system is in use.

Pemberton.—The sewer system for this borough was introduced in 1896. The total length of sewers is one and one-quarter miles. The sewage is discharged onto the meadow land below the town. The introduction of a more comprehensive system of sewerage than the one at present in use is under consideration.

Phillipsburg.—Sewers were introduced in 1889. The total length of the system is three miles. The sewage is discharged into the Delaware river.

Plainfield.—Sewers were introduced in 1895. The total length of the system is twenty-five miles. The sewage is disposed of by irrigation, intermittent filtration, septic tanks and contact beds. The purified effluent is discharged into what is known as Green brook. Storm water does not enter the sewers.

Princeton.—Sewers were introduced in this borough in 1891. The total length of the system is ten miles. The sewage is disposed of by surface irrigation on two fields, one of which is located one mile northeast of the town, and another one-quarter of a mile south of the town. Storm water does not enter the sewers.

Rahway.—Sewers were introduced in 1866. The sewage is finally discharged into the Rahway river, and thence to Staten Island Sound. The combined system is in use.

Red Bank.—Sewers were introduced in this city in 1898. The total length of the system is nine miles. At the time the report was made sewage was being discharged into the river, but some other method of disposal is under contemplation.

Ridgefield Park.—Sewers were introduced in 1900. The total length of the system is twelve miles. The sewage is finally discharged into the Hackensack river. The combined system is in use.

Riverside.—Sewers were introduced in this borough in 1893. The total length of the system is three miles. The sewage is finally discharged into the Hackensack river.

Riverton.—Sewers were introduced in 1889. The total length of the system is one mile. The sewage is discharged into the Delaware river. A more complete system of disposal is under contemplation.

Rutherford.—Sewers were introduced in 1892. The total length of the system is fifteen miles. The sewage is finally discharged into the Passaic and Hackensack rivers.

Salem City.—Sewers were introduced in this city in 1889. The total length of the system is three miles. The final discharge of sewage is into Salem creek. Storm water does not enter the sewers.

Somerville.—Sewers were introduced in 1889. The total length of the system is twelve miles. The final discharge of sewage is into the Raritan river. Storm water is not carried by the sewers.

South Amboy.—A storm water and sanitary sewer was introduced in 1898. The length of the sewer is one and one-half miles. A number of houses are said to be connected with this system.

South Orange Township.—Contracts have been given for the introduction of a sewer system in South Orange township, and the system will be completed in 1903. The outlet will be by main trunk sewer into the sound at Bayway.

South Orange Village.—Contracts have been given for the introduction of a sewer system in South Orange village, and the system will be completed in 1903. The outlet will be by main trunk sewer into the sound at Bayway.

Summit.—Sewers were introduced in this city in 1891. The total length of the system is ten miles. The sewage is discharged upon filtering beds, and the effluent is conducted into the Passaic river. Storm water does not enter the sewers. As soon as the combined sewer for Irvington, South Orange and other localities is completed, the city of Summit will make use of this method of disposal, and in all probability the filter beds will be abandoned.

Sussex.—There is a sewer system in this municipality, but it is only available for a portion of the town. The total length of the sewers is 2,500 feet. The sewage is discharged into a brook.

Swedesboro.—The sewer system for this borough was introduced in 1901. Seven thousand nine hundred feet of pipe have been laid. The

sewage is discharged into the Raccoon creek at low-water mark. The system in use is what is known as the separate system. Seventeen hundred feet in extensions were made during the past year.

Trenton.—Sewers were introduced in this city in 1885. The total length of the system is forty miles. The final disposal is into the Delaware river below the city. The combined system is in use.

Vailsburg.—Contracts have been given for the introduction of a sewer system in Vailsburg, and the system will be completed in 1903. The outlet will be by main trunk sewer into the sound at Bayway.

Vineland.—Sewers were introduced in 1900. The total length of the system is ten miles. The sewage is conducted to disposal beds, located one mile south of the borough line, and the effluent from the beds is discharged into a creek. Storm water does not enter the sewers.

Washington.—A private sewer was constructed in this borough about ten years ago. The total length of the sewer is one and one-half miles. The discharge of sewage is into what is known as Shabbecong creek. Storm water does not enter the sewers.

Wenonah.—Sewers were introduced in this borough in 1895. The total length of the system is one mile. The sewage is collected in two cesspools, and the overflow from these cesspools is discharged upon the surface of the ground.

West Orange Township.—Contracts have been given for the introduction of a sewer system in West Orange township, and the system will be completed in 1903. The outlet will be by main trunk sewer into the sound at Bayway.

NOTE.—THE INTERNATIONAL SYSTEM OF CLASSIFYING AND TABULATING DEATHS, WHICH WAS ADOPTED IN NEW JERSEY AT THE BEGINNING OF THE NEW CENTURY, HAS INCREASED THE NUMBER OF PAGES REQUIRED FOR THE PRESENTATION OF THE ANNUAL REPORT OF THE BUREAU OF VITAL STATISTICS, AND IT HAS BEEN FOUND TO BE IMPRACTICABLE TO CONTINUE TO PUBLISH THIS REPORT IN THE SAME VOLUME WITH THE REPORT OF THE STATE BOARD OF HEALTH, AS HAS HERETOFORE BEEN THE PRACTICE. A LIMITED NUMBER OF COPIES OF THE REPORT OF THE BUREAU OF VITAL STATISTICS, FOR THE CALENDAR YEAR 1901, WILL THEREFORE BE PRINTED AND BOUND SEPARATELY, AND WILL BE FORWARDED TO STATE REGISTRATION OFFICERS, LIBRARIES, &c. THIS REPORT WILL, WHILE THE EDITION LASTS, ALSO BE SENT TO OTHER INTERESTED PERSONS UPON REQUEST. APPLICATION SHOULD BE ACCOMPANIED BY 15 CENTS FOR POSTAGE.

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